



Lidney M. van Wyck Jr

HETCH HETCHY DAM SITE

HEARING

BEFORE THE

COMMITTEE ON THE PUBLIC LANDS

HOUSE OF REPRESENTATIVES

SIXTY-THIRD CONGRESS

FIRST SESSION

ON

H. R. 6281

A BILL GRANTING TO THE CITY AND COUNTY OF SAN FRANCISCO
CERTAIN RIGHTS OF WAY IN, OVER, AND THROUGH CERTAIN
PUBLIC LANDS, THE YOSEMITE NATIONAL PARK, AND
STANISLAUS NATIONAL FOREST, AND CERTAIN LANDS
IN THE YOSEMITE NATIONAL PARK, THE STANIS-
LAUS NATIONAL FOREST, AND THE PUBLIC
LANDS IN THE STATE OF CALIFORNIA,
AND FOR OTHER PURPOSES



WASHINGTON
GOVERNMENT PRINTING OFFICE

1913

COMMITTEE ON THE PUBLIC LANDS.

HOUSE OF REPRESENTATIVES, SIXTY-THIRD CONGRESS.

| SCOTT FERRIS, Oklahoma, *Chairman*.

JAMES M. GRAHAM, Illinois.

EDWARD T. TAYLOR, Colorado.

JOHN E. RAKER, California.

HORATIO C. CLAYPOOL, Ohio.

HARVEY B. FERGUSON, New Mexico.

CARL HAYDEN, Arizona.

SAMUEL M. TAYLOR, Arkansas.

LATHROP BROWN, New York.

TOM STOUT, Montana.

PERL D. DECKER, Missouri.

ANDREW R. BRODBECK, Pennsylvania.

DENVER S. CHURCH, California.

IRVINE L. LENROOT, Wisconsin.

BURTON L. FRENCH, Idaho.

WILLIAM L. LA FOLLETTE, Washington.

WILLIAM KENT, California.

NICHOLAS J. SINNOTT, Oregon.

JACOB JOHNSON, Utah.

CHARLES M. THOMSON, Illinois.

JAMES WICKERSHAM, Alaska.

D. CAMERON CAMPBELL, *Clerk*.

HETCH HETCHY DAM SITE.

COMMITTEE ON THE PUBLIC LANDS,
HOUSE OF REPRESENTATIVES,
Washington, D. C., Wednesday, June 25, 1913.

The committee this day met, Hon. Scott Ferris (chairman) presiding, and the following members present: Messrs. Ferris, Graham, Edward Taylor, Raker, Claypool, Fergusson, Hayden, Samuel Taylor, Brown, Stout, Decker, Brodbeck, Church, French, La Follette, Kent, Sinnott, Johnson, and Thompson.

The CHAIRMAN. The bill under consideration this morning is H. R. 6281, introduced on June 23, 1913, by Representative John E. Raker, of California. I think to avoid confusion it would be well to state that this bill is in lieu of H. R. 112 and an amended bill in lieu of H. R. 4319, which was formerly introduced by Representative Raker at this session of Congress. The bill (H. R. 6281) represents the culmination of ideas of the departments, the representatives of the city of San Francisco, and the irrigation people of the San Joaquin Valley fully who have certain prescribed rights in the water. The chairman is informed that the record will show that this is the agreed bill between them.

The bill involves the construction of a dam at the Hetch Hetchy dam site in California to catch the flood waters of the Tuolumne River. This is not a new matter. This bill in one form or another has been before Congress and the departments for the past 12 years. It has been investigated by numerous engineers, and within the past two years has been carefully and painstakingly investigated by a board of Army engineers headed by Col. Biddle, with two associate engineers, Col. Taylor and Col. Cosby.

It has been represented to this committee that this bill presents an emergency matter in that there is a great shortage of water in San Francisco, and while this bill can not afford immediate relief, it is stated that its enactment into law will relieve the city of its blight to progress incident to its insufficiency of water.

The chairman called the committee together on June 5, 1913, shortly after the committee was appointed, at which time this matter was discussed informally, and at that time it was decided by the committee to take this matter up as an emergency matter and to act upon the bill at this special session of Congress. Both the irrigation people and the San Francisco people were present and all parties had due notice thereof.

At the next meeting of the committee on June 23, 1913, it was the sentiment of the committee that six hours be devoted to the departmental heads in presenting their views on the bill, or so much thereof as might be necessary; six hours to the proponents of the bill, or so

much thereof as might be necessary; and six hours to the opponents of the bill, or so much thereof as might be necessary, after which time the committee would take the bill up, read it section by section, and take formal action thereon.

The CHAIRMAN. I would like to inquire, Mr. Secretary, if you have any arrangement to suggest about the time or the order of presentation of the matter, or if you prefer the committee to take the lead?

Secretary LANE. I supposed that you would ask me such questions as you might see fit; I am at your service.

The CHAIRMAN. I think it is due to the Cabinet officers and bureau heads that have honored us with their presence to say why we invited you. We have asked everyone connected with the Government whom we thought would have any superior information to come here and give us a short, clear, terse statement of this matter. We intend to spend to-day in getting at the elemental phases of this question, and, if necessary, to devote about six hours of time either at this session or the night session, to get the real facts from the department heads. Then it is the plan of the committee to give six hours to those people from San Francisco, the proponents of the measure, who are here, and to Representatives in Congress, and to others who want to present their case, and then we want to give six hours and possibly more to those who are opposed to this measure. Unless the two Cabinet officers who are here have some plan, I think it would be well for us to begin with Secretary Lane and let him make such statement as he desires, and immediately following that I think there should go into the record his written report, and after his statement and written report should come the statement from Secretary Houston, of the Department of Agriculture, and his written report, and following that the statements of the other bureau heads. I have also requested Mr. Pinchot to be here. I wired him and urged him to come, as I wanted the committee to have the benefit of his views and I want his statement in the record. I am informed you are anxious to get away?

Mr. PINCHOT. I am.

The CHAIRMAN. Then, Mr. Secretary Lane, you may proceed.

Mr. RAKER. Before the Secretary begins, I would like the record to show that the original bill, H. R. 112, and the amended bill, H. R. 4319, have been supplanted by the amended bill introduced on June 23, 1913, H. R. 6281, which is the bill upon which the hearing will be had.

The CHAIRMAN. Mr. Raker has correctly stated the parliamentary situation, that the bill H. R. 6281 is a substitute for all former bills on the subject.

Now, Mr. Secretary, if you will proceed to tell the committee your views of this matter, and will give us what information you have on the subject, we will appreciate it keenly. A number of the members of the committee are wholly unfamiliar with the matter, new members of the committee who have never had anything to do with this matter at all, and so if you will be as elementary as you can in the start we will appreciate it.

**STATEMENT OF HON. FRANKLIN K. LANE, SECRETARY OF
THE INTERIOR.**

Secretary LANE. Well, I have nothing to say that is probably not familiar to the most of you, and certainly nothing that is in set form, except the brief report that I have made. I think, perhaps, at the very beginning I had better say that I am not entirely without partisanship in this matter not only because I am a citizen of San Francisco, but because some 10 or 11 years ago, when I was the city attorney of San Francisco, after some application had been made to Secretary Hitchcock and had been denied by him, I was requested by the board of supervisors to come here and make an argument before him in the city's behalf in this very matter, and since that time I have more or less interested myself in this matter as a citizen; and while I was on the Interstate Commerce Commission the committees that have been frequently before you, coming from San Francisco, have sometimes consulted with me, and I have always advised in sympathy with the purpose of this bill.

San Francisco needs a new and adequate water supply. The water supply that she has now has been developed from time to time during the last 50 years, and the city has outgrown it. The situation in San Francisco now is that there are many homes where sufficient water can not be had for a bath; where it is necessary in the new and growing portions of the city to leave a spigot turned on at night in order to get sufficient water for the morning breakfast. More than that, you know the situation that developed immediately after the earthquake. San Francisco attempted to supplement her fresh-water supply with a salt-water supply drawn from the ocean—an emergency supply in case of fire.

There is every kind of reason why San Francisco should have a larger supply of water than she has. At the present time they are advertising in the papers that people must stop washing down their steps, washing off the sidewalks, and watering their lawns, because the water is not to be had. So the question has come up and has been a matter of agitation for a good many years in San Francisco as to what supply of water would best meet San Francisco's needs. After researches made by engineers under the direction of Mayor Phelan the determination was had that the best supply would come from the Tuolumne River. The water came down in the high Sierras, and there was an available dam site within the Yosemite Park. When I speak of the Yosemite Park, I do not speak of the Yosemite Valley; that is distant from the park, or the valley is distant from Hetch Hetchy Valley, and it in no way touches that beautiful scenic valley. The Hetch Hetchy Valley I have never seen; but it is a valley in a canyon which is partly submerged during a part of the year, which, as I learned 10 years or more ago, was for the greater part even of the summer season an impossibility for camping purposes because of the mosquitoes there, there being so much swamp, and great cliffs arise around it. The place, as I have seen it pictured, is one of unusual splendor and beauty. The question, and the only question which has ever been raised against the use of this valley for this purpose—I mean for the conservation of the flood waters of the Tuolumne—the question that has been raised has been the question of turning the bed of the valley into a lake. I think that I have as much appreciation of

natural beauty as anyone and as much of a desire to conserve the natural beauties of my own home State as anyone, and my conclusion, after thinking of this thing a long while, has been that to turn that valley into a lake would add to the beauty of the whole thing rather than to detract from it in any way; but, of course, in matters of taste we all differ.

The engineers who have made a report—I am not very familiar with their report and I have not gone into the engineering features at all myself—but the engineers who have reported on this matter, both the private engineers and the war engineers, have reached the conclusion that this dam site must eventually be used. California needs water for other than municipal purposes, for irrigation purposes, and she needs this water that comes down from these high mountains for power, because she has no coal, so that it is probably a matter of but a very few years, even if this application were denied and if this bill should fail to pass, it would be only a very few years before you would find yourselves pressed by the State of California or by private parties with large public influence behind them to set aside this identical site as a dam site for the holding back of the flood waters which run to waste, so that those waters might be used for irrigation purposes and for power purposes, if not for municipal purposes, and it has seemed to me, in looking over the whole situation, that San Francisco's demand or request made to the Secretary of the Interior in times past was a perfectly reasonable one. My concern, as Secretary of the Interior, has been to see that the interests of the Government were protected. I have looked over this bill in the very brief time I have had and it seems to meet a great many of the objections that have been heretofore raised to such bills.

In the first place, the Turlock-Modesto irrigation people have met in conference with the San Francisco people and they have agreed upon those provisions of this measure which protect the irrigation districts and insure to them a continued flow of water. As I understand it, there is no objection now on the part of the irrigationists, and that was an absolutely overwhelming argument against the position taken by the city in times past, so far as Secretary Hitchcock was concerned. That question of the irrigation of the lands below the dam seems to be out of the way. The question of the injury to the valley, I think, is a question of judgment. My judgment is unequivocally in favor of this use of the floor of the valley. If San Francisco does not get it, some one else must; it is too precious a reservoir site to remain unused.

I have been a bit solicitous on one proposition, and that was the development of water power and insuring to the valley itself, I mean to the park itself and to the other parks that are near by, some return for the use of this site. Provisions have been put into this bill by which power must be developed, and as power is developed the money goes into the United States Treasury and is to be used for the improvement of the park. Let me say also that under the bill the city of San Francisco must build certain roads; must make this country accessible.

Some years ago, perhaps 12 or 15 years ago, I tried to get into the Hetch Hetchy Valley, and was advised that it was an impossibility because of the badness of the roads. That has probably been corrected to some extent since, but the people of San Francisco, in build-

ing this dam and in making these improvements, will necessarily build roads in there, and if they undertake to carry on what are very large improvements within the park area it will make the high Sierras accessible to the people of the State. Besides that, if this water power is developed we ought to get a large revenue, and that revenue can be used to build roads and carry on other improvements in the park that will make Hetch Hetchy available, and will make that whole portion of the park accessible to hundreds of thousands of people who never will have any chance to go in there if it remains as at present. Therefore it seems to me that as a park proposition alone this thing is worth while.

In the communication I have sent to you I have said in the concluding paragraph that I propose to present to you tentatively for your consideration, more to let you know what is in my mind than for any other purpose, a substitute for section 7 of this bill, governing the basis upon which the returns will be made from water-power rates to the Government. I have had in mind for some time and am now having drawn a contract for one of the power plants that has an application before me, setting forth the new plan for compensating the Government for the use of public lands and reservoir sites, and at the same time insuring to the people of the State concerned the largest possible use of the water of the river for power purposes and the lowest practicable rate. My idea is that the lower the rate charged to the consumer the lower should be the charge made by the Government, at the same time the greater the use of the water the higher the horsepower developed by the stream, the greater the flow put to use the lower should be the charge made by the Government, and that these projects should be regarded as utilities, becoming subject to State control as to rates and to interstate control, if there is an interstate body formed to govern such rates.

I do not know of anything else that I can say to you gentlemen. I am sincerely, as a citizen of San Francisco, in favor of this bill. I think, as one having charge of the park, that it will be beneficial, and that anyone who really knows the country and appreciates the advantages that will come by the opening of it up and making it accessible and putting it to use must indorse this proposition as against some rather doubtful aesthetic consideration.

The CHAIRMAN. Mr. Secretary, if you do not object, may I just ask you one or two questions?

Secretary LANE. Certainly.

The CHAIRMAN. Is there any doubt at all in your mind that San Francisco sorely needs an additional water supply?

Secretary LANE. There is absolutely none. San Francisco has absolutely needed an additional water supply for years.

The CHAIRMAN. Have you considered the relative rights between the irrigation people and the city of San Francisco to determine whether this bill does equity to both sides?

Secretary LANE. I was very familiar with that matter 10 years ago; to-day, of course, I am not; but I am advised by the irrigation people themselves that they are satisfied that this protects their rights, and I think it becomes quite evident when you consider that the city puts up a great dam which will hold back certain flood waters that run idly by their lands, that it must work out to their benefit if they have any right whatever to the use of the waters.

The CHAIRMAN. Under this bill, which I know you are familiar with, it does give to the irrigation people below all the water they have appropriated under State law?

Secretary LANE. I understand it does, and something more for possible extensions.

The CHAIRMAN. Now, one word as to the parties who are wiring and sending telegrams here, who believe it is unjust to appropriate this valley for a water-supply purpose, and who think it should be retained for its natural beauty; what is your version of that contention? You stated it partly.

Secretary LANE. I defer very much to any man's judgment upon a question of that kind, as it becomes a matter of personal opinion. I have never been able to get their standpoint. I have never been able to see that by converting this bed of the valley into a lake that we are outraging nature.

The CHAIRMAN. Is it not true that this bill provides as a condition precedent that they must make certain roads and improvements which will develop the park?

Secretary LANE. Yes, sir.

The CHAIRMAN. What is your judgment with reference to these combined requirements of San Francisco offsetting anything that might detract from the park in its natural state?

Secretary LANE. There is this to be thought of in that connection. They will have to put in some sort of a building railroad, a railroad that will connect with the railroad down in the valley. Now, it may not be an impossibility to take that railroad when this dam is built and use it as a railroad from the San Joaquin Valley, where it connects with the Southern Pacific, right up to the crest of the Sierras, and to make that high country, which is utterly inaccessible now except to the very rich or to those who have unlimited time at their command, and make it accessible to the great mass of the people, and even if the railroad itself were not used, there would still be the right of way which would make a splendid easy grade along which automobiles might run.

The CHAIRMAN. Do you anticipate any difficulty in preserving every right of the Federal Government in the control of the power that will naturally come as an incident to this grant?

Secretary LANE. No, sir.

The CHAIRMAN. You think there will be no trouble?

Secretary LANE. I do not see why there should be.

The CHAIRMAN. Have you at hand the acreage of the entire Yosemite National Park?

Secretary LANE. No; I have not.

The CHAIRMAN. Is there any one here who has those figures?

Mr. O'SHAUGHNESSY. There are 800 or 900 square miles in the whole park.

The CHAIRMAN. Do you think that would be a fair estimate of the acreage?

Mr. NEEDHAM. It is much more than that.

The CHAIRMAN. Do you have the area, Mr. Needham.

Mr. NEEDHAM. I think it is about 1,500 square miles.

The CHAIRMAN. What acreage will be consumed if this dam is constructed 150 feet high and carried out as proposed?

Secretary LANE. The engineers can tell you that; I am not familiar with it.

Mr. O'SHAUGHNESSY. One thousand one hundred acres.

The CHAIRMAN. And this is about 200 miles from San Francisco?

Secretary LANE. I think it is a little less than that.

The CHAIRMAN. It is true that San Francisco by purchase and other methods of acquiring does own a majority of the floor of the dam?

Secretary LANE. They own a considerable portion. They have acquired that, as I understand it, in anticipation, or, perhaps, subsequent to the granting of the original permit. That is, they have felt somewhat that they had some rights which were vested there.

Mr. LONG. The Garfield permit required the city and county of San Francisco to secure all lands then in private ownership, and as a result of that San Francisco is the owner in fee simple of nearly two-thirds of the floor of the Yosemite Valley.

The CHAIRMAN. That was the permit of 1908 granted by a former Secretary?

Mr. LONG. Yes, sir.

The CHAIRMAN. I want to inquire if you have given consideration to the claims of rival water-supply people, who contend that they have a supply even more adequate than this one, and I wondered if you had had an opportunity to run their various claims down?

Secretary LANE. I have heard a good deal of oratory upon that subject, but I would not like to pass upon the merits of the different claims. For 12 years or more propositions of one kind and another have been submitted to the people of San Francisco—I mean informally were submitted to their board of supervisors—as to all kinds of water projects, and this one seems to have been arrived at as the one best fitted for the municipality.

The CHAIRMAN. This is the choice of San Francisco?

Secretary LANE. I think there is very little doubt as to that.

The CHAIRMAN. Has there ever been an expression by vote or otherwise of the real sentiment?

Secretary LANE. I understand that bonds have been voted, and it was understood that those bonds would be applied to the development of this project.

The CHAIRMAN. The estimates of cost range from \$65,000,000 to \$77,000,000?

Secretary LANE. That, of course, includes a distributing system. As I understand, some arrangement is contemplated now by which the present distributing system would be obtained.

The CHAIRMAN. Do you think that there are any obstacles in the way of this bill by reason of the holdings of the local water company there, or do you think their differences are sufficiently adjusted to allow us to proceed?

Secretary LANE. I think that the objection they had for a long time has weakened, at any rate there is no opposition at the present time, and it is probable they have reached some sort of an understanding that the city will deal very fairly with the existing company.

The CHAIRMAN. There is no attempt to confiscate the property of the local company, but the plan is to take it over and add this supply to it?

Secretary LANE. Yes, sir; and they have other uses for that part of the water which the city does not want.

Mr. GRAHAM. A number of the opponents of the bill are urging that consideration of the matter be postponed until December. Is there any merit in that or any reason why that should be done?

Secretary LANE. I think there is very good reason why it should not be done, Mr. Graham. This is the open season, and if improvements are to be made they should be undertaken at once.

Mr. GRAHAM. Is there any reason why they can not make such showing as they can make within a few weeks rather than next December?

Secretary LANE. I do not know any reason why they can not make a very full showing to you in the six hours which your chairman spoke of.

Mr. GRAHAM. It is not so much the length of time it will take after we get at it, but to explain more fully I will read a telegram which is a specimen of the kind of telegrams which the chairman is receiving and some of the other members also:

We earnestly request hearings on Hetch Hetchy bill be postponed to regular session. Would be injudicious to rush measure affecting vast national public interests without chance for hearing opposition. We have had no notice of hearings; seen no copy of new bill. Much evidence in preparation for presentation December session.

CALIFORNIA BRANCH SOCIETY FOR PRESERVATION OF NATIONAL PARKS.
WILLIAM FREDERICK BADE.

Can you think of any good reason why those gentlemen could not present such reasons as they have much earlier than December next?

Secretary LANE. I think that there is not any argument that can be advanced against this proposition that you will not find in your records. They have already, as I understand it, presented before Secretary Fisher, and perhaps before your committee, the full line of their objections.

Mr. CHURCH. In your opinion, Mr. Secretary, are there any of the provisions of this bill but what the Government, as you understand it, has the right and the power to carry out; that is, as to its constitutionality and as to its intruding upon any State rights?

Secretary LANE. I would not want to give an opinion as to every provision of the bill, because I have not given all the provisions consideration from the standpoint of constitutionality. But the general principle of the bill is that these lands belong to the Federal Government and that we have control of them. The water originates in them, the water flows through them, and we have control over the dam site, and if we are to allow these lands to be submerged we have got the right to make certain conditions. Certainly no one can come in and use lands in a national park without our consent, and if you give consent, you have got the right to make conditions. Now, I have no doubt whatever but that is entirely within your power.

Mr. TAYLOR of Colorado. Mr. Secretary, I have not had an opportunity to read over the bill or your report on it, but is there any doubt in your mind as to the city of San Francisco getting the entire benefit of this grant by the Federal Government rather than some private water company directly or indirectly getting a benefit out of it?

Secretary LANE. No; there is no question of that kind.

Mr. TAYLOR of Colorado. This is a matter that affects the entire State of California, to a certain extent, is it not?

Secretary LANE. To the same extent that the use of any waters in the State affects municipalities, and, of course, this is the largest city in the State and it is advisable that its interest should be promoted.

Mr. TAYLOR of Colorado. Has the State legislature ever memorialized Congress on the matter, considering it from the broad view of the State's development rather than the development of a particular locality?

Secretary LANE. I am sure I do not know.

Mr. TAYLOR of Colorado. Do you not know that the Western States are very easy in their ability to memorialize Congress upon matters that they think are affecting the welfare of the States?

Secretary LANE. Yes; I think they are very free in that direction.

Mr. TAYLOR of Colorado. I was wondering whether or not the State at large regards it as necessary and beneficial generally for the welfare of the Commonwealth? Of course, there is no question about the judgment of San Francisco and of those distinguished gentlemen who appear here on behalf of that municipality.

The CHAIRMAN. The city attorney of San Francisco tells me that the legislature has done that very thing several times in the last 10 years.

Mr. TAYLOR of Colorado. Have we those memorials in the record?

Mr. LONG. The State Legislature of California has for several sessions adopted memorials memorializing Congress, and on January 18, 1909, they sent a memorial in the form of a telegram to the Committee on the Public Lands of the House of Representatives asking that a grant of the Hetch Hetchy Valley be made to San Francisco, and that memorial can be found on page 330 of the hearing before the House Committee on the Public Lands on the Hetch Hetchy matter, held in January, 1909.

Mr. TAYLOR of Colorado. Did Secretary Fisher make a report as a result of that hearing?

Secretary LANE. Mr. Fisher made a report just before I came into office or just before he went out, in which he referred that matter to you.

Mr. TAYLOR of Colorado. He did not make any recommendations himself?

Secretary LANE. I do not think he made any recommendations. He thought it was doubtful whether the Secretary of the Interior should assume to deal with a matter of as large consequence. Perhaps he was led to that result somewhat by the fact that it was toward the very end of his term.

Mr. TAYLOR of Colorado. The actual land taken by this bill involves how many acres of the public domain?

Secretary LANE. I have heard the statement made that it involves 1,100.

Mr. TAYLOR of Colorado. That is in the floor of the park, is it not, but how much outside? How much other land is involved? In other words, what is the total possibilities of acreage with all of the leeway that is apparently given to the Secretary of the Interior in this bill?

Mr. RAKER. The surveyors will give the amount of land definitely; that is, the land to be taken for the reservoir as well as the land to be taken by the rights of way. The Secretary has not gone into the details of the actual figures.

Secretary LANE. No; because I do not know them.

Mr. RAKER. We will put it all in the record.

Mr. TAYLOR of Colorado. Do I understand that the bill provides for a royalty to be paid to the Government for the use of these lands?

Secretary LANE. This bill provides that there shall be a payment made in the same way as private enterprises pay the Government for the use of reservoir sites.

Mr. TAYLOR of Colorado. Is it your understanding that there is to be a perpetual royalty charged for the use of the water?

Secretary LANE. Yes; that it is for the use of the lands, and that the Government itself shall prescribe the terms upon which this power may be developed. I think that is a policy that will work out in the end for the benefit of this park, and in the end it will work out best for the States, as to private enterprises. I am considering that in connection with a proposition that perhaps you know of, the Pend Oreille project in northern Washington, and I find that those gentlemen—it is purely a private proposition—seem to think that is about the fairest way of getting at this whole matter.

Mr. TAYLOR of Colorado. This provides that the payments are not to go into the National Treasury generally, but to be expended in the improvement of the park.

Secretary LANE. Yes, sir.

Mr. TAYLOR of Colorado. You feel that the committee would not be subjected to the charge of precipitate action or of snap judgment by the people in California if it should rush this bill through at this time, do you not?

Secretary LANE. Mr. Taylor, you are familiar with the psychology of the people of California; it is revealed constantly. If there was any possible objection to this bill on the part of the people of California, it would have been revealed about 10 years ago, and constantly and persistently ever since. The fact that you have so few telegrams, and those upon the esthetic phase almost exclusively, shows that the people of California are very largely for this proposition, and I think I can say without any question that the sentiment of the State backs up the request of San Francisco in this matter, and that if these people were antagonistic to that sentiment you would be overwhelmed with telegrams.

Mr. TAYLOR of Colorado. I am glad to see the Secretary of the Interior take the position that practical use is more important than scenery or esthetic and sentimental uses.

Secretary LANE. I am very much interested in esthetics, too, because I want to see that Denver bill of yours go through. I think that would be of real use, too.

Mr. GRAHAM. Does Brother Taylor owe divided allegiance?

Mr. TAYLOR of Colorado. I may say that I have been trying to protect the water supply of Colorado Springs, and I have had the persistent opposition all the time of all the departments here to obtaining the rights that you are now eagerly granting, it would seem, but at the same time that does not cut any figure. I feel that this is right and that the other action on the part of the departments wrong.

Mr. GRAHAM. I do not understand that the Secretary is now taking any position on anything but this matter.

Mr. TAYLOR of Colorado. I am taking the reports of all the departments, and apparently they favor this project. I do not think there are any other questions I care to ask at this time.

Mr. RAKER. I understand there are provisions in this bill, Mr. Secretary, that any municipality in the State of California, irrespective of its location, may participate in the benefits of this project if such municipality comply with the balance of the bill.

Secretary LANE. I do not know that I follow you there, Mr. Raker. Is that provided in the bill? I did not understand that it was. It is made for the benefit of those cities that are around the bay.

Mr. RAKER. That is stricken out. If there is any excess of water, would not Stockton, and any of the cities north of this line, if they desired to obtain water, be permitted to participate in the excess as well as any city around the bay?

Secretary LANE. There is some provision in the bill for certain districts, but I supposed that referred to irrigation; and whether that would apply to lands surrounding the bay, I do not know.

Mr. CHURCH. Would you mind reading the provision which you think would give Stockton the right to have water?

Mr. RAKER. Letters have been written and telegrams sent by various people, and I think they ought to know the full purport of the bill, and I am asking the Secretary for his construction of this provision so that the committee may understand it and the objections fully disposed of. The provision I refer to, Mr. Secretary—

Secretary LANE (interposing). Yes; I see it. It provides that the city and county of San Francisco shall have the use of these waters—

And such other municipalities or districts which may, with the consent of the city and county of San Francisco, or in accordance with the laws of the State of California, hereafter participate in the beneficial use of the rights and privileges granted by this act.

Mr. RAKER. I would understand the language to mean that any municipality within the State of California would be permitted to receive the benefits of this act with the consent of San Francisco. Of course, the city would have to have its supply first, and then if there is any excess the other municipalities could have it.

Secretary LANE. I think that is a fair interpretation.

Mr. RAKER. Now, as to the irrigation districts, and so that there may be no misunderstanding, I understand the provisions of the bill to mean irrigation districts organized under the laws of the State of California. Is it not your understanding that this would cover those projects as well?

Secretary LANE. I think the rights of the irrigation districts are very well protected here and that they have the right to call upon the city for additional water.

Mr. RAKER. In other words, not only the Turlock-Modesto district as it is now constituted, together with the extension of the territory as provided for in the bill, but the districts outside of those districts may participate if the wants and needs of the city and county of San Francisco are supplied. Under this bill the city and county of San Francisco are permitted to develop their supply to the highest degree and then those other districts will be permitted to have the use of the water by paying as provided under the bill, to the end that the water will not be permitted to go to waste. I will ask you if that is your idea of that bill?

Secretary LANE. Is that your construction of it?

Mr. RAKER. I was wondering whether that would not be the purport of the bill.

Secretary LANE. I would not like to say just how far it goes in that direction. I understood that it protected those lands that were within the present irrigation districts and provided for an extension of those districts and that there was the right of participation on the part of other communities lying in the general direction of San Francisco, with the consent of San Francisco. Now, if something has been given in addition I do not know.

Mr. RAKER. What I wanted to get before the committee was that if there is an irrigation district or a municipality so located that it could, with reasonable expense, participate later on in this water supply, and the water was there, that this bill would not deprive those communities of having that water.

Secretary LANE. I think that is probably true.

Mr. RAKER. Now, in regard to the scenic beauty and conditions there. Telegrams have been received and more or less has been said in regard to that matter, and I think the committee ought to be fully informed. A report has been made by Mr. John R. Freeman that roads will be built around the Hetch Hetchy Lake—roads to the lake and trails to the other places—and I want to simply ask you whether those roads will not give better facilities to the public and give a better use of the Government property than at the present time?

Secretary LANE. Undoubtedly.

Mr. RAKER. Have you read the report of Mr. Freeman as to the general character of the roads?

Secretary LANE. No.

Mr. RAKER. In order to preserve the beauty of the valley it would be necessary, of course, to remove all trees and other débris, and I want to ask you whether, in your judgment, the bill properly provides for such preservation?

Secretary LANE. Yes.

Mr. RAKER. That is sufficiently provided for in the bill, you think?

Secretary LANE. Yes; proper regulations could be made to cover such matters as that.

Mr. RAKER. And the bill also provides for keeping in proper shape all road crossings and other places, so that there can be no inconvenience to the traveling public?

Secretary LANE. They will be kept in such shape as to be of great convenience to the traveling public.

Mr. KENT. I would like to ask Secretary Lane whether he is familiar with the provisions for sanitation in the park? It would seem that these people who have esthetic reasons for urging its nonuse are continually making the claim that the use of this reservoir for domestic water purposes will preclude the public from using a very large portion of the Yosemite National Park. I want the Secretary to state whether he is familiar with the sanitary regulations of this bill and whether he thinks those sanitary regulations are such as to make that particular argument noneffective?

Secretary LANE. I think a system of rules can be worked out which will entirely protect that river as a source of water for the municipality, and that instead of the people being kept from the sides of this stream that the stream will become accessible to thousands of campers every year who never dared to dream of going up into the high Sierras. I am advised by engineers who are familiar with that subject that that is undoubtedly the fact.

Mr. FERGUSON. At the first hearing I attended I was greatly perplexed by the fact that there seemed to be a conflict between the parties as to an insufficient supply of water for the irrigated lands and for the city, but I understand that is now no longer an issue; that that has been adjusted as between the city and irrigators.

Secretary LANE. I understand so.

Mr. FERGUSON. Then, if that is true the only issue before us is whether we will go ahead now and vote to pass this bill or encourage a delay until next December in order to hear from those who oppose the making of a lake in this park on account of destroying the beauty of the park and certain other evils which might occur.

Secretary LANE. Yes.

Mr. FERGUSON. The only thing before us is whether this part of the national park shall be devoted to a private enterprise; that is, supplying water to the city of San Francisco and other communities, with proper safeguards as to the rights of the Government and the public generally. Is not that the only question for us to act upon?

Secretary LANE. I think that is the real question.

Mr. FERGUSON. Mr. Chairman, I have received two telegrams, which I desire to file with the committee. One is similar to the one read by Mr. Graham.

Mr. TAYLOR of Arkansas. I suppose we have all received such telegrams.

The CHAIRMAN. I think it might be well to incorporate them in the record. Do you want to have them put in the record?

Mr. FERGUSON. No; I do not think that is necessary; I simply want them to go into the files of the committee. They simply ask for a delay until next December.

Mr. BROWN. I am chiefly concerned in discovering what the return to the Federal Government would be. The city expects, if it gets this bill passed, to spend somewhere in the neighborhood of \$60,000,000 in building a dam site, on which they can, of course, get back their interest by charging for water, and as a by-product the water flowing through and being conserved by this dam will generate power which, according to the report of the Army engineers, is worth \$45,000,000. Do the regulations which you are proposing provide an adequate return to the Federal Government for this privilege?

Secretary LANE. I think so. My idea is a sliding scale of charges imposed by the Federal Government upon the municipalities, a higher charge if only a small amount of power is developed and a higher charge if a high rate is charged to the consumer, so that our revenue would decrease to the extent that this water power was made a real public utility.

Mr. BROWN. And do I understand that you will make some suggestions to be embodied in this bill instead of section 7?

Secretary LANE. I am going to send a substitute provision for your consideration to see whether it is worth while to put it in instead of the present section. Section 7 now is an excellent one and is based upon regulations that Secretary Fisher made in February or about the 1st of March of this year. There is the same sort of a return paid to the Federal Government by the municipalities covered in this bill that is made in the case of a private enterprise. My own thought is that perhaps something else can be worked out that you might

prefer, and I am simply going to put it in your hands for your consideration.

Mr. DECKER. Where will this money go that the Government gets?

Secretary LANE. It will go into improvements in the park itself and affiliated parks.

Mr. DECKER. Who will have the disbursement of that money?

Secretary LANE. It will be disbursed by the Secretary of the Interior. However, I hope by that time you will have a park board that will properly disburse it.

Mr. DECKER. I am not referring to any particular individuals, but what I was getting at was this: That rate is not fixed by statute?

Secretary LANE. The rate of return?

Mr. DECKER. Is that rate of return to be fixed by the bill?

Secretary LANE. It can be fixed by the bill; it is fixed by reference to certain regulations. This bill makes reference to regulations that were issued by Secretary Fisher and to that extent incorporates the terms of those regulations in the bill.

Mr. DECKER. What I am getting at is this: Can any other Secretary coming in in succeeding years lower or raise that rate?

Secretary LANE. My idea is that probably the bill should provide that that rate should not be changed, perhaps, for 30 years, and then there could be a new arrangement made—a new basis taken.

Mr. DECKER. Have you any idea how much money this will bring in to the Federal Government, just as a rough estimate?

Secretary LANE. No. I can give you the rough figures, as I was looking over them yesterday.

Mr. DECKER. That is all I want, because I would not be able to retain the details myself.

Secretary LANE. I have not them with me, but the figures would depend entirely upon the rates which the municipality would charge. In case the municipality charged high rates the Federal Government would get a great deal of money, provided the municipality was able to get high rates for the greater part of the power, but if the municipality charged low rates then the return to the Federal Government would be correspondingly low.

Mr. DECKER. The theory is this, that the Government has the legal and moral right to participate in the making of these rates for the consumers indirectly, if not directly.

Secretary LANE. Yes, sir; that it has the right to make conditions which may have the indirect effect of lowering water-power rates.

Mr. DECKER. That is the reason I would like to get at the amount of money to come in. It seems to me that the committee ought to consider the question of whether or not it will bring in more than enough money, or more money than should be spent on the beautification of that park or of the parks, and whether or not, if we are going into the business of selling water power and things like that, we ought to see to it that the money is spent where the taxpayers of this country will be benefited rather than for the beautification of parks. This also raises another question, and that is whether or not it is wise for the Federal Government to make money that way with which to run the Government or for any purpose. I have never considered that question myself, and it looks to me like it is more important than scenery or anything else involved here. In other words, God put that park out in California and this water runs down

the hills of California, and whether or not it is right that the people in New York State or the people where I live, for that matter, should be permitted to make money out of that water or should turn it over for the use of the people who can use it, is an important question—that is, whether or not they should use it just as the people in my part of the country use what nature has provided and as the people in New York use what nature has provided there. It seems to me there is a big question there to settle. The question I would like to get your ideas on is as to the theory of how far we should go in this matter of selling water power, because that is what it amounts to in an indirect way, by the Federal Government.

Secretary LANE. As you doubtless know, the Federal Government has already worked out certain regulations governing the control of water power, or what you call its sale. That is a power that is being exercised at the present time. I think that it is very proper that the Federal Government should use whatever power it has over the public lands, over the parks, and over the forests to compel the fullest use of these waters, and indirectly to require, through its power to make conditions, the lowest possible rate for consumers.

Mr. DECKER. And this question of giving it to the consumers of California at the lowest possible rate is uppermost in your mind rather than the question of revenue?

Secretary LANE. Entirely so.

Mr. DECKER. What do you say about that other question, concerning the disposition of the money you do get?

Secretary LANE. I think you will find need there in the parks of California for all of the money that you can raise in this way. If you are going to have a series of Sierra Nevada parks, you will find that they will cost a good deal of money to make and improve. We are holding automobiles out of the use of these parks in large part because we have not money enough to make them accessible by automobile on account of the condition of the roads. We have a great number of bridges that it would not be proper for an automobile to pass over. There are a large number of beauty points that can not be reached at all except upon foot that could be made easily accessible to the great mass of the people if we had the money with which to build roads. In addition, we want good hotels; we want inns; and there are a great many other things that this money could be used for. I think that in the course of a very few years we could make these parks entirely self-sustaining, so that we would not have to come to you for a cent, if this idea would be carried out.

Mr. DECKER. Roughly, can you state about what we expend for the improvement of the parks yearly?

Secretary LANE. No, sir; I can not. I have no recollection now.

Mr. DECKER. Your idea is that for a good many years there would be plenty of use for this money right in the parks?

Secretary LANE. Yes, sir; and when you maintain roads of that kind you will find that it is a very expensive thing. I would like to see all of the money that is produced by this power expended right there for the opening up of these great parks. They are very difficult to open up because they require the construction of mountain roads, and of course an automobile requires a better road than the old dirt road. And then we could build a better character of bridges

and we could build trails. We could put up inns, and that would be of great benefit to the whole country.

Mr. TAYLOR of Colorado. Do you think it would be well for the bill to expressly reserve the right in Congress to adjust that matter later on, in case these funds should not be needed for the parks because of the parks becoming self-supporting?

Secretary LANE. Yes, sir.

Mr. TAYLOR of Colorado. And that kind of a reservation in the bill would take care of that question?

Secretary LANE. Yes, sir.

The CHAIRMAN. This is not a perpetual grant.

Secretary LANE. No, sir.

Mr. TAYLOR of Colorado. In relation to this question of perpetual grants, such as are carried in acts that we have passed, possibly granting rights to cities—I do not know what the conditions are now, but city councils sometimes become corrupt—is there any clause in this bill prohibiting the city council from in any way alienating this right to use water to any private concerns or from leasing it to them?

Secretary LANE. My recollection is that there is.

Mr. TAYLOR of Colorado. If there is not, that should be in the bill.

Secretary LANE. Yes, sir; I think that is properly protected.

Mr. TAYLOR of Colorado. On page 2 of the bill you provide that other cities and municipalities may participate in the benefits of this water by the consent of the city of San Francisco. Is not that a rather hazardous proposition, to put the welfare of other cities or to have the other cities deposit or place their welfare and their rights to participate solely in the hands of the city of San Francisco?

Secretary LANE. That, I suppose, would only be in the event that there was more than sufficient water for the needs of San Francisco.

Mr. TAYLOR of Colorado. But should San Francisco be the sole judge of what is necessary?

Secretary LANE. I do not know what was the idea in the minds of those who prepared that provision, but I should say that they wanted to avoid leaving it to the Secretary of the Interior.

Mr. TAYLOR of Colorado. Of course I am not speaking for the other cities that have rights here, but it would look as if it might be much safer for them to have some ultimate tribunal to appeal to in case San Francisco should decide to use the water in a way that might be excessive.

Mr. GRAHAM. That is in accordance with the laws of the State of California.

Mr. TAYLOR of Colorado. Have you any laws in the State of California that would take care of this condition?

Secretary LANE. They have a law creating a water commission, as I understand it.

Mr. LONG. Four years ago the Legislature of the State of California adopted a law which permits the creation of water users' districts whereby water users for irrigation and other purposes can join in together and provide for the cost of carrying the thing through. That is what this provision means, that it shall be in accordance with the laws of the State of California; that is, they can participate provided they comply with those laws governing the organized districts and bear their proportion of the cost.

Mr. TAYLOR of Colorado. I was just wondering whether the question had been sufficiently considered or not.

Mr. LONG. This bill was drawn in conjunction with the representatives of the other cities around the bay, and so they understand that.

Mr. SINNOTT. I understood you to say a moment ago that matters had been satisfactorily arranged with the irrigators. You referred to the irrigators below the proposed dam site. Are there any irrigators above?

Secretary LANE. No, sir.

Mr. SINNOTT. Then, I understand that it is proposed to construct a number of roads in this park and render the park and its vicinity more accessible to the public. Will that tend to impair or jeopardize the purity of the water?

Secretary LANE. I think that regulations could be made that would protect that.

Mr. SINNOTT. I put that question to you for the reason that that same question has come up with reference to other parks.

Secretary LANE. Yes, sir; you had that situation in Oregon.

Mr. SINNOTT. Yes, sir; we have the same situation in Oregon.

Mr. DENNETT. You understand, Mr. Secretary, that landowners outside of the districts subject to irrigation have not consented to this bill and are here opposing it?

Secretary LANE. Some who are in the Turlock and Modesto districts are opposed, and I presume that is also true as to other landowners in California who would like to get the use of the water.

The CHAIRMAN. Have they got any claim to the water under existing law?

Secretary LANE. I do not know what their claims are.

Mr. DENNETT. They claim under the law.

The CHAIRMAN. You claim to have appropriated under the laws of the State of California?

Mr. DENNETT. Yes, sir; filings have been made for some time.

The CHAIRMAN. Where?

Mr. DENNETT. In the Tuolumne reservoir.

The CHAIRMAN. Where were the filings made?

Mr. DENNETT. In what county?

The CHAIRMAN. Yes, sir.

Mr. DENNETT. In St. Stanislaus County.

The CHAIRMAN. We will hear you later in opposition.

Mr. RAKER. I want to make one suggestion in response to Mr. Sinnott's question. The bill is not intended to provide the regulations as to sanitary conditions. Experts have been consulted upon that subject, and I suppose everything connected with it will be up to date and then if there are any other regulations required in the future they can be provided. The city is to filtrate its water in such a way as not to shut off any more of this park from use.

Secretary LANE. Yes.

The CHAIRMAN. With the permission of the committee the Chair will have inserted in the record immediately following his statement the letter of Secretary Lane on this subject.

(The letter referred to is as follows:)

DEPARTMENT OF THE INTERIOR,
Washington, June 24, 1913.

Hon. SCOTT FERRIS,

Chairman Committee on the Public Lands, House of Representatives.

MY DEAR MR. FERRIS: Your letter of June 23 has been received, inclosing proof print of House bill introduced by Representative Raker, entitled "A bill granting to the city and county of San Francisco certain rights of way in, over, and through certain public lands in the Yosemite National Park and Stanislaus National Forest, and certain lands in Yosemite National Park, Stanislaus National Forest, and the public lands in the State of California, and for other purposes," and requesting a report thereon, with such suggestions and recommendations as may be deemed advisable.

The history of the privilege proposed to be conferred by the bill to the city of San Francisco, as shown by the department records, may be briefly stated as follows:

A permit was issued by the Secretary of the Interior on May 11, 1908, copy herewith, granting to the city of San Francisco right of way over certain lands in the Yosemite National Park, with permission to take water from the Lake Eleanor and Hetch Hetchy Valley in that park under the conditions therein set forth. The stipulations of this permit provided, among other things, that the Lake Eleanor site should be developed to its full capacity before beginning the development of the Hetch Hetchy site, and also for the protection of the rights of the Modesto irrigation district and the Turlock irrigation district to the use of the natural flow of the Tuolumne River and its branches to the full extent of their claims, etc. Thereafter the city, under said permit, surveyed a dam site at Lake Eleanor and made preliminary surveys of the Lake Eleanor main canal, running from the dam above mentioned, to the junction of the Hetch Hetchy main canal, etc., which were approved by the department February 25, 1909, and took steps looking to the clearing and exploration of foundations for the dam, etc.

In February, 1910, the then Secretary of the Interior issued a citation to the mayor and supervisors of the city and county of San Francisco to show cause why the Hetch Hetchy Valley reservoir site should not be eliminated from the permit theretofore granted to the city on May 11, 1908, for a water supply for said city and county. A board of Army engineers were detailed by the Secretary of War as an advisory board to the Secretary of the Interior in the disposition of the matter.

Upon consideration of the application of the city for an extension of time to secure further data, a continuance was granted for that purpose until June 1, 1911, and the board of Army engineers was authorized to receive such data as might be furnished by the city to establish its claim for the necessity for the use of the Hetch Hetchy site, and to secure such other necessary data as they might deem advisable, and an appropriation of \$12,000 was granted by Congress to defray the expenses of this board.

On account of the stated inability of the city to procure within the time allotted the data deemed necessary by the board, postponement was granted from time to time by the Secretary of the Interior, the final documents not being submitted by the city until September 1, 1912. The final hearing on the matter was had before the then Secretary of the Interior, November 25 to 30, 1912, at which the parties interested were represented, and at which the Army board was present. The report of the Army board was submitted to the Secretary of the Interior on February 10, 1913, copy herewith.

In the judgment of the board, in making a selection of one of the several sources of water supply that could be obtained and used by the city of San Francisco and adjacent communities, the determining factor is principally one of cost. The project proposed by the city of San Francisco, known as the Hetch Hetchy project, in the opinion of the board, was \$20,000,000 cheaper than any other feasible project for furnishing an adequate supply of water to the city, and such project had the additional advantage of permitting the development of a greater amount of water power than any other. The use of the Hetch Hetchy Valley as a reservoir site was regarded as necessary if the full flow of the upper Tuolumne River was to be conserved; furthermore, it was of the opinion that there would be sufficient water, if adequately stored and economically used, to supply both the reasonable demands of the bay communities and the reasonable needs of the Turlock-Modesto irrigation districts for the remainder of the present century.

By reason of the fertility of the lands under irrigation and their aridness without water, the necessity of preserving all available water in the Valley of California will sooner or later make the demand for the use of the Hetch Hetchy Valley as a reservoir "practically irresistible." A delay of a few years in transforming Hetch Hetchy Valley into a reservoir is of but little importance, and it is therefore not deemed necessary, in the judgment of the board, to require delaying the construction of this reservoir until Lake Eleanor and Cherry sources have been fully developed.

Under date of March 1, 1913, the then Secretary of the Interior in disposing of this case stated, among other things, that:

"In view of the language of the Yosemite Reservation act of 1890, I believe that as a matter of broad public policy, and not at all as a matter of necessary statutory construction, the natural condition of so important a natural curiosity of wonder as the Hetch Hetchy Valley should not be radically changed without the express authority of Congress embodied either in a statute granting a permit and fixing its terms and conditions or by an act conferring upon the Secretary of the Interior the power to issue such a permit upon terms and conditions to be fixed by him within broad general limitations. I have repeatedly urged that the act of 1901 should be amended in this very way."

On March 12, 1913, there was presented for my consideration, with a view to approval, maps constituting application for rights of way through the Yosemite National Park under the act of February 15, 1901, filed by the city and county of San Francisco, under surveys which had been authorized in the park by the department under date of December 3, 1912, and upon consideration thereof the maps were approved, with the following indorsement:

"The foregoing map, filed under the act of February 15, 1901, by the city of San Francisco, assignee of James D. Phelan, is hereby approved, subject to the filing by the city of San Francisco of such formal stipulations and the fulfillment of such conditions as may be hereafter indicated, it being understood that no permanent work of any character whatsoever shall be constructed or done, and that such map is filed and approved for the purpose of enabling the city of San Francisco to protect and develop its private water rights acquired under the laws of the State of California pending action by Congress upon the application of the city of San Francisco. The approval of May 11, 1908, of the Hetch Hetchy reservoir site is hereby revoked."

The bill under consideration is doubtless the result of the application of the city of San Francisco for the relief desired in this matter. In my judgment, the permission desired by the city and county of San Francisco to secure water from the Yosemite National Park for municipal purposes, etc., should be accorded. The communities on San Francisco Bay constitute the largest center of population on the Pacific coast and are urgently in need of an adequate supply of pure, wholesome water for domestic consumption and for fire protection.

This project would insure the development of a dependable supply of water for the use of the adjacent irrigation districts and it would also provide for the development of power now going to waste. The city of San Francisco has evidenced its good faith in this matter by providing for a large bond issue looking to securing money to effectuate the grant if accorded. The bill under consideration fully protects the interests of the United States in the park and elsewhere. Under the project as proposed by the city the floor of the Hetch Hetchy Valley, now difficult of access and frequently unhealthy, will be converted into a lake of great beauty and be provided with suitable approaches. Under the provisions of this bill the revenues derived by the Government from the generation of electrical energy from the waters in the Hetch Hetchy Valley, which in time will grow into a very considerable sum, are to be used for the maintenance and improvement of the Yosemite National Park, and the city of San Francisco has undertaken to construct and maintain roads, trails, and bridges, which will practically result in a great enlargement of the park areas of the high Sierras by making them more safely and easily accessible.

In the interest of better administration, however, the bill should be amended along the lines hereinafter indicated, to wit:

On page 8 of the bill, commencing at line 13, strike out "without cessation of such construction for a period of three consecutive years" and insert in lieu thereof the words "and in case of failure on the part of the grantee to so diligently prosecute such construction, then all rights of the grantee shall be forfeited."

On the same page of the bill, after the word "herein," in line 19, and before the word "and," in line 20, strike out the following words, "as to that portion of the works which is not constructed."

On page 14 of the bill, line 24, strike out the words "of costs."

On page 22 of the bill strike out the word "and" and the end of line 25 and insert a period after the word "thirteen" at the end of such line as amended.

On page 23 of the bill strike out all of lines 1 and 2.

On the same page strike out, after the word "approval," in line 7, all that follows in the succeeding lines numbered from 8 to 15, inclusive, and insert, after the word "approval," the following words: "of such legal authority as is or may be constituted for fixing rates or charges for such power in the State of California."

I shall submit tentative proposals in amendment of section 7 in the course of a few days.

Respectfully,

FRANKLIN K. LANE.

STATEMENT OF HON. DAVID F. HOUSTON, SECRETARY OF AGRICULTURE.

The CHAIRMAN. Mr. Secretary, we will be glad if you will proceed to give us what information you can on this subject under discussion.

Secretary HOUSTON. You have the reports before you. I examined the first draft of the bill that I saw and have examined this proposed bill, and I am in hearty accord with what the Secretary of the Interior says as to the general features. So far as the Department of Agriculture is concerned, I think that all of the interests of the Government are safeguarded in the bill. It affects the national forests there, and the line, I imagine, will be about 16 miles long.

The CHAIRMAN. Do you mean 16 miles of right of way?

Secretary HOUSTON. Yes, sir. The bill proposes that they shall have rights of way not exceeding 250 feet in width, and it may be determined by the Secretary of the Interior. It is unnecessary for me to repeat anything that has been said about the need of the city of San Francisco for water. There is no doubt from the representations made that they have a great and growing need for this water supply. It is a prerequisite to the development of a great city. Now, I am also informed that this has been determined as the best way to secure the additional water required. It seems to me that we can not afford to stand in the way of that. We must use the facilities that are given out there wisely, especially when we can protect every interest of the Government involved. I am advised by those immediately in charge of the service that the bill adequately protects the forests, with which I immediately have to deal. I am also advised that instead of injuring the forest in any way under the regulations proposed the result may be even to improve the forests. They are required to take care of whatever rubbish and anything of that kind there may be, and they are to build the roads and trails. I have carefully examined the bill, and I can see no reason why it should not go through.

The CHAIRMAN. In your opinion, the development of roads and trails might mean an additional protection to the forest, might it not?

Secretary HOUSTON. Yes, sir.

The CHAIRMAN. You think the bill properly safeguards the interests of the forests in every way?

Secretary HOUSTON. I think so, when the suggestions that have been made have been incorporated.

The CHAIRMAN. Have you considered the matter from the point of view of the people who may think it is a great wrong to put this water to beneficial use because of the possible injury to the natural beauties of the valley or because of the destruction of scenic values?

Secretary HOUSTON. In the first place, if I am correctly informed, it will add to the beauty rather than injure the appearance of the forest and the park. So that answers the question from that point of view. But I think there is a great deal of beauty in San Francisco to be conserved, and I think that the thousands of people there have some claims on the Government.

The CHAIRMAN. I wonder whether you have investigated the subject with a view to ascertaining whether or not some of those protests were inspired protests or protests inspired by real estate and irrigation interests that hoped to obtain the use of this water for their own purposes?

Secretary HOUSTON. I have no information to that effect. I will simply say that it is rather singular that I had no complaints and no objections presented to me of that nature, and we know that when people are affected they usually complain.

The CHAIRMAN. I want to inquire of you whether, in your opinion, the opening of these roads, trails, and approaches might not have the effect of enabling poor people to get in there and enjoy the park? At the present time it is very expensive to get there, and I wanted to ask you whether or not, in your opinion, these improvements would make the park more accessible to poor people?

Secretary HOUSTON. I think that very likely.

The CHAIRMAN. That opinion has been frequently expressed, and I wondered if you agreed with it.

Secretary HOUSTON. Yes, sir; I do. You understand there are about a million acres in this forest, and over 800,000 acres belong to the Government. This is a very insignificant part of that, and if under proper regulations the city of San Francisco and the adjacent territory can get the water they must have for their development, for their economic purposes, and for their comfort, I think they ought to have it.

Mr. RAKER. In going over the bill and considering it, you have also considered the question of the public roads now in use or that will be necessary in the public domain as well as through the forest and parks, and you understand that these roads are not now in the condition they should be. In other words, every provision should be made for the maintenance and the keeping up in proper shape of the roads so that the public may have the use of them; that is, of the roads that are there now and of such as may be made in the future. Those that are now constructed and those that are provided for in the bill are to be public highways and not subject to toll or other charges by the city or county of San Francisco or any one else, are they not?

Secretary HOUSTON. I think that should be the case.

Mr. RAKER. Now as to the feature of the possible spoiling of the park, that is another matter. The park being in my district, I feel that the public there understand the situation as well as those gentlemen who are objecting to the bill on the ground that it will spoil the beauties of the Yosemite Valley. I suppose you have read the report of the engineers relating to the matter, in which they state that roads should be built?

Secretary HOUSTON. I have not read all the report.

Mr. RAKER. The report of the engineer, Mr. Freeman, also specifies the building of certain roads in this park; the building of certain trails as well as roads around the Hetch Hetchy Valley or the Hetch Hetchy Lake. Now, would it not, in your opinion, add to the beauty of the valley if the reservoir is kept in proper shape—the dead trees cleared out—after the water is put in?

Secretary HOUSTON. I think so. I think it would add to the beauty of the valley. That would add not only to the beauty of it but to the utilization of it. I think at the present time these reserves have comparatively few people visiting them. They probably enjoy them, and I think it would add to the enjoyment of a great many more people if the purposes of this bill were carried out.

Mr. RAKER. Coming to that feature of it which relates to the sanitary conditions, in the report of the engineers for the city and county of San Francisco as well as in the report of the Board of Engineers, I find opinions from experts on the sanitary condition, and they lay down certain rules. Those rules if complied with would be sufficient to prevent any deleterious material from going into the reservoirs. If these are provided as designated, and with the further provision that, if there is any change required, the city and county of San Francisco may filter this water and not put any more burden upon the park, and that the park shall be used as it is used now, with roads and trails provided and also boating on the reservoir, would not this use add to the value of the park instead of detracting from it?

Secretary HOUSTON. I think so. I think this would adequately protect the park.

Mr. TAYLOR of Colorado. Some of the people are telegraphing us here and claiming that there are other sources of adequate water supply for San Francisco, and that this water is needed for agricultural development and for municipal purposes in other parts of the State. Now, if it should turn out that, in the interest of the conservation of the water supply and run-off of that State, a different system could be devised whereby a large part of the State would not be perpetually condemned to barrenness, would that affect your judgment in the matter?

Secretary HOUSTON. Taking it just as you have stated it, it might, but I do not think that at all likely.

Mr. TAYLOR of Colorado. They are telegraphing us to that effect; that is, that this action may perpetually consign to a state of barrenness a considerable portion of the State of California, whereas if a different source of supply was obtained and the water was conserved it might ultimately redound to the benefit of other parts of the State.

Secretary HOUSTON. I have seen no proof that that is true, and the burden of proof would be upon them, of course.

Mr. RAKER. Is it not a fact that all the other sources of supply in the State, if utilized, would have the effect of withdrawing waters from the parks of California, except in the case of the one project of pumping water from the Sacramento River?

Secretary HOUSTON. I think so.

Mr. TAYLOR of Colorado. Even if the use of this water for agricultural purposes is important, the highest use of water is for domestic purposes, is it not?

Secretary HOUSTON. Yes, sir. Of course, all of it is for the use of the people, and the thousands of people in the city of San Francisco must be considered.

Mr. TAYLOR of Colorado. The municipal or domestic use of water, involving the health, welfare, and sanitation of a city, is the highest use of water. It is certainly higher than any other use that has been suggested.

Secretary HOUSTON. Certainly.

Mr. TAYLOR of Colorado. The conservation of the people is more important than the conservation of agriculture.

Secretary HOUSTON. Yes.

The CHAIRMAN. The stenographer will insert Secretary Houston's letter immediately following his statement.

(The letter referred to is as follows:)

DEPARTMENT OF AGRICULTURE,
OFFICE OF THE SECRETARY,
Washington, June 25, 1913.

HON. SCOTT FERRIS,

Chairman Committee on Public Lands, House of Representatives.

DEAR MR. FERRIS: I wish to acknowledge receipt of your letter of June 23, inclosing a copy of the advance print of the bill to grant to the city and county of San Francisco certain rights of way in, over, and through Government lands, and for other purposes, with the request that your committee be furnished with a report as to the law and facts in relation thereto, and for such suggestions as this department may see fit to offer.

Since my letters to you on the bill H. R. 4319 were written representatives of the city of San Francisco and other persons concerned have had a conference with respect to reconciling the various views of departments of the Government and others so as to frame a bill acceptable to all of them.

In the bill upon which you now ask a report I find that the amendments proposed by this department for the protection of national forest interests have been adopted, as were also several suggestions made by the representative on the part of the Forest Service who attended the conference. This department, therefore, has no objection to the enactment of the bill into law.

Very sincerely, yours,

D. F. HOUSTON, *Secretary.*

STATEMENT OF HON. GIFFORD PINCHOT.

The CHAIRMAN. In deference to Mr. Pinchot's wishes, as he desires to leave the city, he will be permitted to address the committee at this time if there is no objection.

MR. PINCHOT. Mr. Chairman and gentlemen of the committee, my testimony will be very short. I presume that you very seldom have the opportunity of passing upon any measure before the Committee on the Public Lands which has been so thoroughly thrashed out as this one. This question has been up now, I should say, more than 10 years, and the reasons for and against the proposition have not only been discussed over and over again, but a great deal of the objections which could be composed have been composed, until finally there remains simply the one question of the objection of the Spring Valley Water Co. I understand that the much more important objection of the Tuolumne irrigation districts have been overcome. There is, I understand, objection on the part of other irrigators, but that does not go to the question of using the water, but merely to the distribution of the water. So we come now face to face with the perfectly clean question of what is the best use to which this water that flows out of the Sierras can be put. As we all know, there is no use of water that is higher than the domestic use. Then, if there is, as the engineers tell us, no other source of supply that is anything like so reasonably available as this one; if this is the best, and, within reasonable limits of cost, the only means of supplying San Francisco with water, we come straight to the question of whether the advantage of leaving this valley in a state of nature is greater than the advantage of using it for the benefit of the city of San Francisco.

Now, the fundamental principle of the whole conservation policy is that of use, to take every part of the land and its resources and put it to that use in which it will best serve the most people, and I think there can be no question at all but that in this case we have an instance in which all weighty considerations demand the passage of the bill. There are, of course, a very large number of incidental changes that

will arise after the passage of the bill. The construction of roads, trails, and telephone systems which will follow the passage of this bill will be a very important help in the park and forest reserves. The national forest telephone system and the roads and trails to which this bill will lead will form an important additional help in fighting fire in the forest reserves. As has already been set forth by the two Secretaries, the presence of these additional means of communication will mean that the national forest and the national park will be visited by very large numbers of people who can not visit them now. I think that the men who assert that it is better to leave a piece of natural scenery in its natural condition have rather the better of the argument, and I believe if we had nothing else to consider than the delight of the few men and women who would yearly go into the Hetch Hetchy Valley, then it should be left in its natural condition. But the considerations on the other side of the question to my mind are simply overwhelming, and so much so that I have never been able to see that there was any reasonable argument against the use of this water supply by the city of San Francisco, provided the bill was a reasonable bill. Now, there are two or three small changes in the bill which I would like to suggest.

The CHAIRMAN. Inasmuch as you will not be here when we go through this bill section by section, I would be glad, Mr. Pinchot, if you would indicate the pages, sections, and lines in which you suggest changes.

Mr. PINCHOT. On page 7, line 4, after the words "Secretary of Agriculture," I would suggest inserting:

Provided, That no timber shall be cut in the Yosemite National Park, except from lands to be overflowed, or such timber as may be constituted an actual obstruction upon a right of way.

In other words, I do not believe that a national park should be used as a source of timber supply, and I understand the representatives from San Francisco are entirely willing that that should be added.

Mr. RAKER. There is already an act which permits them to dispose of it. If there is down or dead timber you would not want them to go 5 or 6 miles? There is an act permitting that in the Yosemite National Park.

Mr. PINCHOT. Then I am wrong about that.

Mr. RAKER. There was a special bill passed two years ago permitting the Secretary of the Interior to dispose of ripe, down, or dead timber in the Yosemite National Park. You would not object to using that sort of timber?

Mr. PINCHOT. Not in a national park.

Mr. RAKER. Dead and dying?

Mr. PINCHOT. A place like a national park should be protected against that. I think we can have a little timber fall down and die for the sake of having the place look like no human foot had ever been in it. I do not think that the national parks should be used as a source of lumber supply.

Mr. RAKER. Suppose the timber is ripe and ready to be disposed of, that there is a tree which could be used, you would not want to leave that there and go to the expense of going to some other place, if it does not affect the scenic beauty of the park?

Mr. PINCHOT. That does not apply to the national parks, but here is a different situation, here is one of the great wonders of the world, and I would leave it just as it is so far as possible in the Yosemite National Park.

Mr. RAKER. For instance, a tree falls down, one of the largest in the park, that should not be left there to destroy the balance?

Mr. PINCHOT. It will not destroy the balance.

Mr. RAKER. I am just taking the statement of the others.

Mr. PINCHOT. I will mention that among the greatest of the beauties are some of the fallen trees. I would not touch one of them.

Mr. RAKER. They would not want one of those great trees for building purposes?

Mr. PINCHOT. No, sir. That does not apply to the national parks. The parks are set aside for seeding purposes in this particular manner. I would leave the trees alone. Outside of the parks I think the point of view of use is the dominant matter which should control.

There is one other amendment on page 5, line 10, after the words "of said departments." I would insert the words "and approved," so as to make it read:

That with reference to any maps heretofore filed by said city and county of San Francisco with the Department of the Interior or with the Department of Agriculture, or with any officer with either of said departments and approved, that the provisions hereof will be considered complied with by the filing by said city and county of San Francisco of copies of any of such maps with the register of the United States land office.

Mr. GRAHAM. Approved by whom?

Mr. PINCHOT. By the department. That does not change the meaning of the clause.

Mr. RAKER. In other words, it would not affect the plats and maps already filed?

Mr. PINCHOT. No, sir.

Mr. RAKER. And if approved now they would be dated back to the date of filing?

Mr. PINCHOT. Yes, sir; precisely.

Mr. RAKER. There was a bill passed three years ago, recommended by some department, in relation to the Yosemite National Park, that it would be a good thing for the park and would not affect the scenic beauty if the trees that were ripe and the dead and down timber should be disposed of. In constructing this work, if there are trees that are ripe—and, of course, that would have to be acted upon by the Secretary of the Interior or his agent—there would be no destruction of the scenic beauty by taking a few of such trees when it would not destroy the beauty of the park?

Mr. PINCHOT. I think it would largely reduce the beauty of the park. In the neighborhood of this right of way, the proposed reservoir, which would be in the neighborhood where most people would go, all the trees that are now standing should be left. It is not actually necessary to go all the way. I believe a provision of that kind would very largely detract from the beauty of the park, and, furthermore, would tend to make the arguments of the nature lover very much more powerful.

Mr. RAKER. Have you read the provisions of this bill as to sanitation?

Mr. PINCHOT. Yes, sir.

Mr. RAKER. What effect will that have upon the use of the park? Suppose the reservoir is built, what effect will it have as to retarding the people from going into the park?

Mr. PINCHOT. The regulations which are required are substantially what ought to be followed out by any well-intentioned camper, anyhow.

Mr. RAKER. To what extent would that retard the use of the park by campers?

Mr. PINCHOT. Not at all, practically.

Mr. RAKER. If those who are studying this subject as to the sanitary conditions and as to the purity of the water should change their minds in 10 or 15 years, the bill provides that the city shall get no further extension, so far as the park is concerned, but that but that they shall filter the water. Is that a fair provision as to the public, as well as to the city and county of San Francisco?

Mr. PINCHOT. It seems to me that the provision in the bill meets the condition both ways.

Mr. RAKER. Those who figure on the beauties of the park and the utility of the park are amply and fully provided for under scientific conditions now, and if conditions should change in the future, still they are provided for, they would have to filter the water?

Mr. PINCHOT. I think the bill as to the sanitary regulations and the rest of it has been very carefully and skillfully drawn and is a good bill.

Mr. RAKER. As to the roads, you have read Mr. Freeman's report?

Mr. PINCHOT. No, sir; I have not.

Mr. RAKER. Taking the scenic beauty of the park as it now stands, and the fact that the valley is sometimes swamped along in June and July, is it not a fact that if a beautiful dam is put there, as is contemplated, and as the picture is given by the engineers, with the roads contemplated around the reservoir and with other trails, it will be more beautiful than it is now, and give more opportunity for the use of the park?

Mr. PINCHOT. Whether it will be more beautiful, I doubt, but the use of the park will be enormously increased. I think there is no doubt about that.

Mr. RAKER. In other words, to put it a different way, there will be more beauty accessible than there is now?

Mr. PINCHOT. Much more beauty will be accessible than now.

Mr. RAKER. And by putting in roads and trails the Government, as well as the citizens of the Government, will get more pleasure out of it than at the present time?

Mr. PINCHOT. You might say from the standpoint of enjoyment of beauty and the greatest good to the greatest number, they will be conserved by the passage of this bill, and there will be a great deal more use of the beauty of the park than there is now.

Mr. RAKER. Have you seen Mr. John Muir's criticism of the bill? You know him?

Mr. PINCHOT. Yes, sir; I know him very well. He is an old and a very good friend of mine. I have never been able to agree with him in his attitude toward the Sierras for the reason that my point of view has never appealed to him at all. When I became Forester and denied the right to exclude sheep and cows from the Sierras, Mr. Muir thought I had made a great mistake, because I allowed the use

by an acquired right of a large number of people to interfere with what would have been the utmost beauty of the forest. In this case I think he has unduly given away to beauty as against use.

Mr. RAKER. Would that be practically the same as to the position of the Sierras Club?

Mr. PINCHOT. I am told that there is a very considerable difference of opinion in the club on this subject.

Mr. RAKER. Among themselves?

Mr. PINCHOT. Yes, sir.

Mr. RAKER. You think then, as a matter of fact, that the provisions of this bill carried out would relieve the situation; in other words, that there is no valid objection which they could make?

Mr. PINCHOT. That is my judgment.

Mr. RAKER. You are familiar, are you not, with the other part of California north, to some extent?

Mr. PINCHOT. I am not sufficiently familiar to qualify as an expert. We have here the result of a most careful examination by experts.

Mr. RAKER. From your general knowledge of conditions in California, is it your opinion that this is the most practicable and accessible water supply for San Francisco, with all of the rules and regulations provided in this bill?

Mr. PINCHOT. From what little I know of California, I think the conclusions in this report are correct.

Mr. RAKER. Which report is that?

Mr. PINCHOT. The "Report of Advisory Board of Army Engineers to the Secretary of the Interior on Investigations Relative to Sources of Water Supply for San Francisco and Bay Communities," House Document No. 54, Sixty-third Congress, first session.

The essential statement in this report seems to me to be the following:

The board believes that on account of the fertility of the lands under irrigation and their aridness without water the necessity of preserving all available water in the Valley of California will sooner or later make the demand for the use of Hetch Hetchy as a reservoir practically irresistible.

In other words, it is certain that this reservoir must be used some time.

The CHAIRMAN. And it is a question of whether now or to postpone it?

Mr. PINCHOT. The time to use it is when it is most needed.

Mr. RAKER. As to the provision in the bill relative to the Turleck-Modesto district, you think that is fair?

Mr. PINCHOT. I have no opinion about it, but as long as the Turleck-Modesto people are satisfied, I think we can accept it.

Mr. RAKER. You think it is fair to the Government?

Mr. PINCHOT. So far as I can see, the Government is not directly concerned in that matter. That is a matter between San Francisco and Turleck-Modesto.

Mr. RAKER. There are other provisions in the bill. This compromise between the Turleck-Modesto people and the city and county of San Francisco does not jeopardize the Government's interest or any other part of California, so far as you know?

Mr. PINCHOT. No, sir.

Mr. RAKER. The provision as to permitting other municipalities or other districts to participate in this grant under these provisions, you think that is wise and wholesome?

Mr. PINCHOT. Yes, sir; provided the needs of San Francisco are first met.

Mr. RAKER. In other words, your view of the bill is that it is a good and fair bill to all of California and to the Government, and particularly to that part of California that is within the watershed of Tuolumne River?

Mr. PINCHOT. So far as I understand it; yes, sir.

Mr. RAKER. And likewise it fully protects the forest reserve and the park?

Mr. PINCHOT. With the provision that I have suggested; not without it.

Mr. RAKER. If an act has been already passed, that is another thing.

Mr. GRAHAM. Have you been in the Hetch Hetchy Valley yourself?

Mr. PINCHOT. I never have; I have been in the Yosemite.

Mr. GRAHAM. I am much interested in knowing from the purely scenic point of view what the character of the land is and what the scenic beauty consists of in the 100 or 150 feet nearest the water level? What scenic beauty would be destroyed by raising the level of the lake 100 or 150 feet?

Mr. PINCHOT. The water would cover a large part of the slope of broken rock at the foot of the cliffs, and according to the claims of the opponents of the bill it would replace a meadow with a lake and would result in reducing the height of the cliffs.

Mr. GRAHAM. When this matter was up before I received a great many telegrams, most of them from ladies in my district, protesting against any interference with the beauty of the valley, and I wondered if the place was inaccessible, whether they spoke from observation or whether they had been influenced in some other way?

Mr. PINCHOT. A very small number of people have been in the valley.

Mr. GRAHAM. What is the means of getting in there now?

Mr. PINCHOT. There is a pack trail, a journey of a day or a day and a half from Yosemite, is it not, Mr. Long?

Mr. LONG. Yes, sir; 9 miles over a trail.

Mr. GRAHAM. Would the raising of the water level facilitate the making of roads at the higher level?

Mr. PINCHOT. I think it would be more expensive, but that is a question for San Francisco.

There is a lake in the upper end of the Yosemite called Mirror Lake which reproduces to a certain extent the same features which this lake would have, and that is one of the most visited scenic beauties in the Yosemite.

Mr. RAKER. One of the beauties of Lake Louise is that very thing—the reflection from the mountains and the height of the lake puts an addition to its beauty that nothing else could accomplish. I am speaking of the same thing that Mr. Pinchot speaks of in regard to Mirror Lake. This would have the same effect.

Mr. TAYLOR of Colorado. Do you feel, in view of the necessities and of the higher use of the city of San Francisco, that this committee

would be justified at this time in doing what the nature lovers of the United States are liable to look upon as undue rushing of this measure in putting it through at this time? In other words, there are in my State, and, I suppose, in every other State, a large number of very good people—ladies and clubs and other people—who have memorialized and written us time and time again—I think I have 200 such communications—protesting against this measure on the ground of the destruction of the scenic beauty of what they contend belongs to all the people of the United States, who, if they had an opportunity possibly to study this bill and to realize more fully the necessities, would become placated or satisfied. I think we could appeal to them in that way. Do you feel that the necessities of the situation warrant us now in pushing this bill through Congress without giving them an opportunity; would they look upon it incredulously?

Mr. PINCHOT. They have had ample opportunity; this bill has been up for discussion 10 years.

Mr. TAYLOR of Colorado. They have always succeeded in defeating it before?

Mr. PINCHOT. The arguments against it have been made over and over again; there will be nothing new.

Mr. TAYLOR of Colorado. Will they or will they not think that there is nothing new presented on behalf of San Francisco that would warrant the passage of the measure?

Mr. PINCHOT. That is a matter of opinion. I am well satisfied nothing new will be presented at this time except the agreement of the former opponents of the bill.

Mr. TAYLOR of Colorado. Are you thoroughly and heartily in favor of the measure?

Mr. PINCHOT. I am thoroughly and heartily in favor of it. I am in favor of reporting the bill now before the committee and passing it at this session.

Mr. TAYLOR of Colorado. You feel that the wishes of these people should be disregarded?

Mr. PINCHOT. I think their protests have already been presented and that their case is not a good one.

Mr. RAKER. Heretofore the question of the roads and the trails and the maintaining of them was never provided for. That is a new matter.

The CHAIRMAN. On the question of whether or not these people have had notice, right in connection with Mr. Pinchot's statement I want to state for the benefit of the committee and all present that on June 5 this committee met to determine whether or not the matter should be passed upon at all at the special session, and I think it was almost unanimous, only 1 out of 19 members of the committee being opposed to it. Furthermore, from the notice sent out to the press everyone was aware that we had invited the engineers from the Turleek-Modesto irrigation district and the engineers from the city of San Francisco and any attorneys or engineers or advisers they cared to bring to come here and the committee would upon their arrival have sessions and consider the relative rights of the parties. They came here and for 10 days they had daily meetings among themselves until they finally reached an agreed statement of facts. In addition to the general notice that we sent out, the chairman of the

committee has sent in reply to every telegram that has been received, protesting against this legislation, this reply:

Telegram received. Unanimous agreement of committee determined to devote six hours beginning Wednesday morning at 10 o'clock to the department heads in developing elementary principles of the bill, succeeding six hours to proponents of bill, and following six hours to opponents of bill. It is expected hearings will continue until matter is disposed of. Will be glad to have your suggestions either in person or writing.

So that every man has had not only general notice and general information, but has had actual notice and an actual invitation to come here. I can not share the view of those people that they have had no notice, because the general notice and general attention that this matter has had has been almost colossal. The Secretary of the Interior just this morning sent in hearings which it would take us months to even read.

As to the question of San Francisco's needs of an adequate water supply, there can be no question.

Mr. PINCHOT. The testimony is overwhelming on that point.

The CHAIRMAN. As to this being the choice of San Francisco, there can be no question?

Mr. PINCHOT. None whatever, so far as I know.

The CHAIRMAN. You are aware that there are other private companies out there seeking to sell to San Francisco?

Mr. PINCHOT. I have long been aware of that.

The CHAIRMAN. Have you had occasion to compare the relative merits of the different proposals?

Mr. PINCHOT. I must answer that question by saying that I am not an expert in the matter, and I simply accept the opinions of the engineers, who are experts and who know better than I do.

The CHAIRMAN. It has been examined by a number of Army engineers and others?

Mr. PINCHOT. Yes, sir.

The CHAIRMAN. Have you had occasion to examine their reports?

Mr. PINCHOT. To some extent.

The CHAIRMAN. What was the conclusion you reached?

Mr. PINCHOT. That the conclusions of the board stated on pages 50 and 51 of the report were correct.

The CHAIRMAN. That shows that this project would be the most economical by about \$20,000,000?

Mr. PINCHOT. That, I understand, is only for the construction work and does not take into consideration the cost of acquiring water rights on other streams.

The CHAIRMAN. Which would make it very much greater?

Mr. PINCHOT. Yes, sir.

The CHAIRMAN. As between the patriotic and good citizens who think that this ought to be kept sacred in its natural state and the beneficial use to these irrigation people and to the city there can be no question as to the proper thing for this committee to do?

Mr. PINCHOT. None whatever in my mind.

The CHAIRMAN. To indulge them would be to waste the waters of that entire river and let them flow idly to the sea, would it not?

Mr. PINCHOT. The situation in California is such that it is important to save the waste of water; it is all necessary, and ultimately all will be used. The most they could hope to accomplish would be to delay the development of this water supply.

The CHAIRMAN. But until a dam is constructed which will conserve those surplus waters they are running to waste, doing no one any good?

Mr. PINCHOT. They are.

The CHAIRMAN. I want to inquire whether you have had an opportunity to examine as to the ability of the irrigation people to construct a dam of this magnitude, costing \$60,000,000 or \$70,000,000?

Mr. PINCHOT. Whom do you mean by the irrigation people?

The CHAIRMAN. I mean those people down in the San Joaquin Valley.

Mr. PINCHOT. The Turlock-Modesto people?

The CHAIRMAN. Yes, and the other claimants down there; Mr. Dennett and others.

Mr. PINCHOT. I did not know that the irrigation districts had proposed to build this dam. It would be a very large undertaking for them.

The CHAIRMAN. I wondered whether it would be possible for an irrigation company, or a series of companies, to get themselves into an organization, compact and powerful in form, which could accomplish such a project.

Mr. PINCHOT. After having examined the matter I should think it would be very difficult.

The CHAIRMAN. You mean it would be difficult because of the cost?

Mr. PINCHOT. The cost would probably be prohibitive in such a case.

The CHAIRMAN. I know you have given a great deal of attention to these matters, and I would like to know what you think of this bill from the standpoint of properly preserving the rights of the Federal Government in the matter of the power which is granted?

Mr. PINCHOT. I think they are very well safeguarded. As I understand it, no charge is to be made for the power San Francisco uses for its own purposes; but as to power which it may dispose of commercially—that is, requires somebody else to pay for—the Government would get the benefit of the usual charge which is made in all other commercial cases.

The CHAIRMAN. Have you examined the bill sufficiently to say whether you approve of the provisions in reference to that particular point?

Mr. PINCHOT. In its present form it seems very good to me.

Mr. TAYLOR of Colorado. Ought there not to be some provision in the bill regarding the rates or charges?

Mr. PINCHOT. I think it decidedly unwise to fix rates in this kind of a bill.

Mr. TAYLOR of Colorado. Ought we not to reserve such power in Congress.

Mr. PINCHOT. Congress would always have the right, I judge, to fix the rates if it chose to avail itself of that right, but the bill simply authorizes the Secretary of the Interior to do that for Congress.

Mr. TAYLOR of Colorado. Would it not be better, if there is any question about it, to have such a reservation in the bill rather than to leave it to some other possible construction whereby some courts might hold they had a vested right and that there could not be any interference hereafter by Congress?

Mr. PINCHOT. There could be no objection to that that I can see.

Mr. TAYLOR of Colorado. I was thinking that if that reservation was put in it might have a salutary effect.

Mr. PINCHOT. It might be a good thing. But what would happen in this case would be that the Secretary in making his contract and in issuing his permit would favor rates, as he has already said, for about 30 years, and after that the question of rates would come up again.

Mr. TAYLOR of Colorado. But if there was a reservation in the bill Congress might determine to do it in less than 30 years if there was any real need for it, might it not?

Mr. PINCHOT. Yes. As I said, I see no objection to putting it in, although I do not believe that would accomplish much.

Mr. RAKER. The same thing applies to all municipalities using water.

The CHAIRMAN. You feel that action on the part of the committee at this time is really not interfering very much with anybody?

Mr. PINCHOT. I do not see how it is possible, Mr. Chairman, when this matter has been threshed over and over again. Secretary Fisher has just had hearings on the subject, and you have given notice. It seems to me that if ever a measure came before you ready for mature deliberation or mature judgment, this is it.

The CHAIRMAN. Do you care to say anything more?

Mr. PINCHOT. No.

The CHAIRMAN. Do any of the other members of the committee desire to ask further questions?

Mr. DENNETT. Mr. Pinchot, if the water claimed by San Francisco can be utilized to irrigate 200,000 acres of land which, without that water, will go without irrigation, and San Francisco can obtain from the Sacramento Valley an adequate supply of water, would you consider that the giving to them of the grant prayed for would be in accordance with the highest principles of the conservation of the resources of the State?

Mr. PINCHOT. I do not understand that the city can get from the Sacramento Valley a supply that would meet your hypothetical question. I am in favor of getting the largest possible area of land irrigated, and of giving, at the same time, the citizens of San Francisco the best possible supply.

Mr. DENNETT. Assuming they could obtain an adequate supply from that valley, without injury to the land, then it would be according to the highest principles of conservation, would it not?

Mr. PINCHOT. Assuming that they could obtain, at a reasonable price, an equally good supply of water, which I do not understand to be the fact, then your question would be answered in the affirmative.

STATEMENT OF MR. GEORGE OTIS SMITH, DIRECTOR GEOLOGICAL SURVEY.

The CHAIRMAN. If you will give your views to the committee and give us any light on the matter that you can, we will appreciate it and be benefited by it.

Mr. SMITH. Mr. Chairman and gentlemen, the proposition for San Francisco to utilize the waters of the Tuolumne River for a municipal water supply seems to me to be bound up with the larger proposition

of the full utilization of the Tuolumne River, Cal. As has been stated by others, water is the natural resource that controls development. I think it needs no extended argument before this committee to assure you that full utilization is not only desirable but absolutely essential. Water is a resource of paramount value because of its necessary uses. There are three of these uses, as has been mentioned, and their respective values may be compared. I think we will agree that municipal use is the highest value, next irrigation, and, lastly, power—the generation of hydroelectric energy. I believe that the highest possible utilization of the Tuolumne River, or of any river, is that which provides, as far as possible, for a combination of these three values and the harmonizing of the different uses. And this is the test, as I have considered this bill, which I have applied to the proposition set forth in House bill 6281.

The storage of flood waters on the Tuolumne River is the first condition, if we are to have any further development, in the utilization of that river. I believe the statement was first made some 20 years ago in the report of the Geological Survey that the Hetch Hetchy site offered an opportunity for the largest and cheapest storage on the Tuolumne River, and three years ago I expressed the opinion, in a report made to the Secretary of the Interior—and I based my opinion largely upon an examination made in conjunction with two engineers of the Reclamation Service—that Lake Eleanor, with diversion from Cherry Creek, would suffice for the city's needs, but with better hydrometric data before it the board of Army engineers has stated that such a water supply would be far from sufficient for the city's needs, combined with the needs of the irrigation districts. It is now plain that eventually all practicable sites for the storage of flood waters on the Tuolumne drainage area must be used in order to insure full utilization of these waters for municipal and irrigation uses, with the incident hydroelectric development, and as possessing the best dam site on the river Hetch Hetchy Valley must eventually be converted into a reservoir.

Mr. RAKER. Will you name these reservoir sites to the committee, if you have them in mind?

Mr. SMITH. Lake Eleanor, which is the principal one, with a diversion from Cherry Creek, would give a water supply somewhat comparable with that of Hetch Hetchy. There are other smaller sites, such as on Jack Main Creek and on Stubblefield Creek and Lake Vernon. I think those are the principal ones, all of them being above or tributary to the reservoir site, and therefore in a position to be eventually linked up with that development.

To repeat, Hetch Hetchy Valley must eventually be made into a reservoir. Now, I believe it can be stated that the sooner that dam site is actually used, the sooner that reservoir is utilized, the better, under the plan as set forth in the provisions of this bill, and I believe that from the standpoint of economics the plan will appeal to you by reason of the fact that the cost of storage will be assessed not only upon irrigation interests, but equally, if not to a larger extent, upon municipal water and municipal power. In this way there will be a division of the whole initial cost of storage. I think that in this way practical conservation will be secured for to-day, and it will leave opportunities for such extension of this utilization in the future as will be necessary to meet future conditions. In this I may be answering

a question raised by Mr. Taylor, that the future is not deprived of anything, but will be allowed to take care of itself, and whatever may be the highest value for that water in the future, the water will be put to that use.

There remains the question, leaving the question of the largest utilization, whether the provisions of the present bill are adequate to protect all interests and to recognize all equities. There are three parties, it seems to me, to this proposition. San Francisco, by reason of its claim for the highest use of the water; the Turlock-Modesto irrigation districts, by reason of their prior use and their actual dependence upon the Tuolumne watershed for their water; and, thirdly, the general public, which is interested in the full utilization of our water resources here as elsewhere and also interested by reason of special rights which they have in the national parks. I believe that the citizens of San Francisco, and the other bay cities, will receive pure water from the cheapest source, and they will also receive municipal power at a low price. The irrigation interests, with their prior rights, are assured under the terms of this bill of a larger supply than they at present have upon what seems to me to be absolutely equitable terms. The third party to this contract, in the form of legislation, is the general public. The visitors to the park, if this plan is carried out, will have the northern part of the Yosemite National Park made more accessible, if not indeed also more attractive. And right there I would say that in my opinion natural beauty has little value unless there is the human eye to see it.

The sanitary restrictions that are set forth in the bill, as has been stated by Mr. Pinchot, are not a bit more than should be placed upon any users of a national park, this and other national parks, whether San Francisco is to get the water from the park or not. In addition, this is necessary in order to protect the campers from themselves. The man who pollutes or defiles the stream has an obligation to the man who happens to be camping lower down on the same stream. And these simple restrictions that are put in here are no more than should be put in to enforce care in any national park, no matter how many miles from any city that may be dependent upon that water supply. And furthermore, by the very plain language of the bill, there is placed the burden of greater protection in the future, a matter which I think is very important, because the requirements in the future with regard to municipal water supplies generally, I think, will be more stringent than at the present time. That is the trend of public opinion. But the burden of greater protection in this bill is placed upon the city of San Francisco. They must provide filtration or some other means of purification of the water or protection of the water. A third interest which the general public has comes from the revenue which is to go to the maintenance and improvement of national parks in California.

To sum up, the proposed legislation appears to me to serve present needs without in the least compromising the future needs. If we look ahead, there is also in this project some future possibilities of general benefit to the public, and not the least of these benefits will be the increased degree in which these national playgrounds of the high Sierras will be made more attractive to the general public, because they will be more accessible.

The CHAIRMAN. Does any member of the committee wish to ask the director any questions?

Mr. RAKER. You have gone over the questions of sanitation, have you?

Mr. SMITH. Yes. I looked into those questions quite carefully, because it seemed to me that was the crux of the situation as regards the welfare of those who wish to make use of the national parks for national park purposes.

Mr. RAKER. And you think they are not so stringent as to prevent the use of the parks?

Mr. SMITH. They are no more stringent than some of us have put in force in our own camps in the mountains when we have been hundreds of miles from any city.

Mr. RAKER. What I wanted to get from you, so as to get it in the record, was that you do not think this will retard the use of the park?

Mr. SMITH. Not by ordinarily decent people.

Mr. RAKER. Well, we have no other kind in California; some come from the outside

Mr. GRAHAM. They are the extraordinary ones who come from the outside?

Mr. RAKER. Yes; and the burden has been placed upon the city to take care of those conditions?

Mr. SMITH. Yes; I think there is such a provision.

Mr. RAKER. I believe that in the report of the engineers there is some reference to the permission of boating on reservoirs, and that it causes no injury to the water. Is that right?

Mr. SMITH. I think there is such permission in some places.

Mr. RAKER. I would like to know what you think about that.

Mr. SMITH. I can not qualify on that, but I should not think it would interfere with the city's use. But that could be determined by the Secretary of the Interior, I believe.

Mr. RAKER. Have you ever gone into it to such a degree that you could say, for the benefit of the committee and for the House, that it would not affect the water for household purposes?

Mr. SMITH. I should not think it would make any difference.

Mr. RAKER. What I am trying to show is the greatest use that could be made of all this, notwithstanding its use for reservoir purposes.

Mr. SMITH. Of course, we all admit that boating will be better on Lake Hetch Hetchy than in the Hetch Hetchy Valley.

Mr. TAYLOR of Colorado. You have determined in advance that the city has that authority, regardless of what the Secretary may do?

Mr. RAKER. No; I am trying to put it the other way. The city can not control it. In other words it is up to the Secretary of the Interior.

Mr. TAYLOR of Colorado. Have you a provision of that kind in the bill?

Mr. RAKER. I think we have.

Mr. SMITH. I understand that the restrictions which are to be put on are specified in the bill, and that anything further is in the discretion of the Secretary of the Interior.

Mr. RAKER. That is what I understand.

Mr. TAYLOR of Colorado. What guaranty is there in the bill that San Francisco will comply with its provisions? Is there any for-

feiture clause in the bill that compels San Francisco to comply with all of these conditions?

Mr. RAKER. That is my view of it.

Mr. TAYLOR of Colorado. There ought not to be any question about that.

Mr. RAKER. I understand there was.

Mr. LONG. There is a clause that permits the Secretary to declare a forfeiture and authorizes the Attorney General to commence suits in San Francisco.

Mr. SINNOTT. That is, in case they do not proceed with the work.

Mr. TAYLOR of Colorado. I did not mean that; I meant the enforcement of the things they are supposed to carry out. What protection has the Government, or anybody else, against San Francisco after it has gotten these waters?

Mr. SMITH. All the way through, it seems to me, there is a specific provision made for enforcing the contract.

Mr. TAYLOR of Colorado. In what way?

Mr. SMITH. Well, in the case of power. For instance, if San Francisco does not develop power the Secretary of the Interior can step in and lease that power to others.

Mr. TAYLOR of Colorado. You mean, in case they do not go ahead and initiate the work?

Mr. SMITH. And actually carry it out.

Mr. TAYLOR of Colorado. But after it has been initiated is there anything in the bill which would permit anybody to get control over these matters during the next hundred years?

Mr. SMITH. I think all the way along there is effective control.

Mr. TAYLOR of Colorado. I have not had any opportunity to read the bill, and am asking these questions for information.

Mr. RAKER. Here it is on page 9, line 9. It says:

Provided, further, That, in the exercise of the rights granted by this act, the grantee shall at all times comply with the regulations herein authorized to be prescribed by the Secretary of the Interior and the Secretary of Agriculture, and in the event of any departure therefrom the Secretary of the Interior or the Secretary of Agriculture may take such action as may be necessary in the courts or otherwise to enforce such regulations.

Now, if that is not sufficient it ought to be made so. It is the purpose to provide the means in this bill for carrying out the rules and regulations in the interest of the public as well as in the interest of San Francisco. Yet I think that is sufficient.

The CHAIRMAN. Is there anything further you care to say, Mr. Director?

Mr. SMITH. I would simply add that I base some of my opinions on actual observation of the Hetch Hetchy Valley itself.

Mr. RAKER. Have you any doubt as to the sufficiency of the language of this bill to give the Secretary of the Interior and the Secretary of Agriculture, or any other officer having charge of this work, full and complete plenary power to compel the city and county to comply with the rules and regulations?

Mr. SMITH. Of course, I am not a lawyer, but I have been with the lawyers of the departments as they have carefully gone over this bill, and I have been assured that this completely tied it up for the benefit of the public; that there is no loophole in it that reasonable care could discover.

Mr. RAKER. There are no other conditions in this valley such as metal, and otherwise, that would prevent its being used for the purpose of a reservoir site?

Mr. SMITH. Not at all.

Mr. RAKER. An investigation has been made?

Mr. SMITH. It is in a region that is commonly barren of any metalliferous deposits. The nearest metalliferous deposits that I know of are in the extreme southeastern corner of the Yosemite Park.

Mr. WHITMAN. Mr. Francis Burton Harrison, a Member of Congress from New York, wrote to the Secretary of the Interior some time ago on this subject, and there is a reference to the same matter on page 145 of the engineer's report, as follows:

An economical and adequate source of water supply for San Francisco consists of one large and three small reservoirs with a combined capacity of 123,000,000 gallons, lying between the Merced and Tuolumne Rivers.

Do these reservoirs exist and could they be utilized for reservoir purposes, for municipal supply, irrigation, or otherwise?

Mr. SMITH. Between the Merced and Tuolumne Rivers—that would be some of the streams that fail to head up against the divide; that is, the main divide of the higher Sierras, and I think they would be streams that would be rather an uncertain source for any municipal supply.

Mr. RAKER. Mr. Chairman, I suppose Mr. Harrison is here, and if he has gone into this matter, scientifically or otherwise, and is in a position to give the committee the benefit of any investigation he has made as to reservoir sites there, I think he should appear. I suggest that if Mr. Harrison has gone into this matter, we would like to have his statement.

Mr. WHITMAN. I do not know about that. I only know what the engineers seem to admit; that is, that there are such reservoirs; but the suggestion is that they would not be useful for municipal purposes, although they might be useful for irrigation purposes.

Mr. SMITH. There are two reservoirs in that intervening country. I think they would be reservoirs of low capacity and of rather high cost; that is, high unit cost.

Mr. GRAHAM. Is there sufficient elevation to give gravity flow or pressure?

Mr. SMITH. It would do for irrigation purposes; they might use it upon irrigable lands.

Mr. LONG. The next paragraph on page 145 of the report disposes of that.

Mr. WHITMAN. It disposes of it so far as the municipal uses are concerned.

Mr. RAKER. You have not made any special investigation of that, have you?

Mr. SMITH. No, sir.

Mr. DENNETT. What would be your attitude, Mr. Smith, if I may ask, if it should be shown that there are 200,000 acres of land absolutely dependent upon the Tuolumne reservoir for irrigation and which will be deprived of water if this 400,000,000 gallons should be diverted for the supply of the city of San Francisco?

Mr. SMITH. Do you mean that all there is would be diverted?

Mr. DENNETT. Yes, sir.

Mr. SMITH. Mr. Dennett, it seems to me that a comparison of what might be if somebody else develops this storage basin in the Tuolumne Valley is a hypothetical question. I suggest that because I do not think that anyone else is liable to develop the Hetch Hetchy dam site, unless there is a reasonable hope that the irrigation use can be connected with the municipal and power use.

Mr. DENNETT. There are the Turlock and Modesto irrigation districts now organized, and this 200,000 acres of land lying outside, the owners of which are now taking steps to organize into an irrigation district, and they are preparing to construct foothill reservoirs which would be capable of storing these waters for irrigation purposes. Now, after taking all these things into consideration, would that change your attitude toward this proposition?

Mr. SMITH. I believe that question should be asked of the Director of the Reclamation Service. I believe you should ask him whether such foothill reservoirs can be constructed of sufficient capacity and at a cost that would permit of their utilization?

Mr. DENNETT. You are familiar with the run-off of the Tuolumne River?

Mr. SMITH. Yes.

Mr. DENNETT. And the effect of the diversion of 400,000,000 gallons of water for the city of San Francisco out of that river?

Mr. SMITH. As I understand it, the irrigation districts at present organized are fully provided for under this act, and when we regard other irrigation interests that are in process of organization or that may be organized some time in the future, I think we are taking up a future proposition that would have to be decided in the future. To repeat what I said in my opening statement, I think that under the terms of this bill, whenever the water has a higher value for any purpose than it has for municipal uses in the city of San Francisco, the law of economics, without any statutory provision on the subject, will insure such use of that water.

Mr. DENNETT. Then ought there not to be some provision to prevent a vested right in the city of San Francisco that would perpetually render this great area of land a desert?

Mr. SMITH. This vested right, I think, can be transferred, and whenever it is to the interest of San Francisco, as the metropolis of that surrounding region, to make some other use of the water, they will, without any legislation enacted 50 or 100 years before, put it to such use. That is what I mean by economic laws as contrasted with statutory laws.

Mr. DENNETT. Then you think that this bill would leave it to San Francisco to say whether it would release this water for irrigation purposes?

Mr. SMITH. Of course they would not release it unless it was worth more to release it for that purpose.

The CHAIRMAN. The letter from Mr. Smith will be inserted immediately following his statement.

(The letter referred to is as follows:)

DEPARTMENT OF THE INTERIOR,
UNITED STATES GEOLOGICAL SURVEY,
Washington, June 25, 1913.

Hon. SCOTT FERRIS,
House of Representatives.

MY DEAR MR. FERRIS: In response to your request of June 24, the proposition of San Francisco to use the Hetch Hetchy reservoir site is bound up with the larger question of utilization of the water resources of the Tuolumne River. With water, the natural resource that practically controls development in this valley region of California, no extensive argument is needed to show that full utilization of the Tuolumne River is not only desirable but absolutely essential.

Three uses of the waters of the Tuolumne are possible, and in the comparison of their respective values municipal use will probably be admitted as commonly the highest, with irrigation next, and power of least importance. The highest utilization is that which in part combines these values and harmonizes these three uses. This, then, is the test which I have applied to the terms of the Hetch Hetchy project as defined in H. R. 6281.

Storage of the flood waters of the Tuolumne is the first condition of any further utilization above that of to-day, and since of the reservoir sites on this river that at Hetch Hetchy affords opportunity for the largest and cheapest storage, it follows that eventually a dam must be built on this site. Three years ago I expressed my opinion in a report to the Secretary of the Interior that the Lake Eleanor Reservoir with Cherry Creek diversion would suffice for the city's needs without requiring Hetch Hetchy. Now, with much better hydrometric data at their command, the board of Army engineers report that the water supply thus developed would be far from sufficient. Moreover, it is plain and indeed almost axiomatic that to secure the largest utilization of these waters all practicable reservoir sites will need to be used, for only with practically all of the flood waters thus stored can there be any supply at all adequate for both municipal and irrigation uses, with such hydroelectric development as can and should be linked up with these two higher uses.

As possessing the best dam site on the Tuolumne, Hetch Hetchy Valley will some day be converted into a reservoir, and from the standpoint of economics the sooner this dam is built and the floods waters stored and used the better. If built now, its cost will be assessed not upon irrigation alone, but municipal water and municipal power will share the heavy initial cost of storage. With practical conservation thus secured for the present, the future utilization of this water can be expected to follow economic law—the use for which the water is most valuable will prevail.

There remains, I believe, only the question whether this proposed legislation protects all interests and recognizes all equities. San Francisco and the bay cities base their claim upon their proposed highest use of the water; the Turlock-Modesto irrigation district properly sets up its prior use and natural dependence upon the Tuolumne watershed; and the general public is interested both in the broad proposition of full utilization of water resources, in the benefits from which all citizens will share, and in their special rights to the full and free use of a national park for recreation purposes. All of these rights seem to me to be amply protected. The citizens of San Francisco are to receive pure water from the cheapest source, the irrigators have a larger supply assured upon terms altogether equitable, and the visitors to the Yosemite National Park will have this northern portion made more easily accessible, if, indeed, not also more attractive. The sanitary restrictions placed upon campers are no more than should be required to safeguard visitors to any national park from disease, and specific provision is made that should the city at any future time desire greater protection of its water supply it must provide that by filtration or other means at the city end of the system. The public interest in this utilization of the Tuolumne is further insured by the collection of a revenue from the power development, to be expended in maintenance and improvement of the national park system in California.

This proposed legislation commends itself to me, because it not only serves present needs without compromising the future, but, more than that, this project, when safeguarded as it is in H. R. 6281, possesses future possibilities of general benefit that we are apt to underestimate, and not the least of these benefits will be the increased degree to which the national playgrounds in the Sierra Nevada will be made more attractive because more accessible.

Respectfully, yours,

GEO. OTIS SMITH, *Director.*

**STATEMENT OF MR. HENRY S. GRAVES, CHIEF FORESTER,
DEPARTMENT OF AGRICULTURE.**

Mr. GRAVES. Mr. Chairman and gentlemen of the committee, I will not repeat the ground which has already been gone over. I think the forestry question has already been pretty well covered by the statements of Secretary Houston and Mr. Pinchot. I have scrutinized this bill with a great deal of care with reference to the question of the administration and the protection of the Government interests, particularly in the matter of the forestry end of it—that is, the part which relates more particularly to the care and protection of the national forests. The former bill did not contain some provisions which seemed to us necessary, and these were suggested and reported to this committee, and were suggested to the general conference held between our department and the Department of the Interior and some of the representatives of the city of San Francisco. So far as I can see, the provisions which we suggested have all been incorporated in the bill. We felt that it was desirable on the first opening of the bill to make the location of the rights of the way as well as their actual required width subject to the approval of the two Secretaries. That looks perhaps more to the future than to the present plans of the department.

If I understand this bill correctly, this right would stand as to all future developments beyond what is planned in this scheme. It seems to me that there may be an occasion when the city might wish to locate a right of way, telephone line, or transmission line, or some other development connected with this project, which would interfere with some other use of the property. I can conceive, for instance, of the blocking up of a body of timber in the national forests, and that would have to be provided for by a diversion of the right of way. All of that can be taken care of, and that was my purpose in suggesting that the Secretaries approve all the locations as well as the actual required width of the rights of way. There was another point which we suggested, I think at the bottom of page 2 of the bill, which concerns the disposition of timber on the right of way.

The CHAIRMAN. The first amendment is on page 5 and the other is on page 7. Those are Mr. Pinchot's suggestions.

Mr. GRAVES. We wanted it made clear in the bill that timber which is cut off of the rights of way—that is, timber which would be required for the development and maintenance of their works—should be designated or marked for cutting by officers of the Government. We made that suggestion so that the purposes of the various parks should be conserved.

The CHAIRMAN. Has your desire in that regard been incorporated?

Mr. GRAVES. It is at the bottom on page 6, and reads as follows:

But no timber shall be cut or removed from lands outside of the right of way until designated by the Secretary of the Interior or the Secretary of Agriculture, respectively.

That makes it clear that the timber shall be designated, and of course there is no objection on the part of anyone to that provision. That is one suggestion we had to make.

The CHAIRMAN. You have heard it suggested here that there might be some advantages conferred by this bill with reference to the preservation of the forests and their protection from fire, etc., from the

fact that these trails, roads, and telephone systems would be provided. Have you considered the matter from that point of view?

Mr. GRAVES. The principal problem in the administration of forests, and the same thing is true also with reference to parks, is the matter of fire protection, and we have made it our first work to develop trails, roads, and telephone lines, which are absolutely necessary for the protection of the forest.

The CHAIRMAN. And the requirements of the bill in that respect will help along that line?

Mr. GRAVES. Yes, sir.

Mr. TAYLOR of Colorado. Regarding the supervision of this territory hereafter, does the Forest Service or the Department of Agriculture or the Interior Department reserve any jurisdiction over it or is it absolutely given exclusively to the city of San Francisco?

Mr. GRAVES. As I understand it, these rights of way are indeterminate easements which are granted upon certain conditions, and, except so far as complaints and objections are concerned, there is no jurisdiction given. The city has authority over these rights of way.

Mr. TAYLOR of Colorado. There would be no charge against the Government for maintenance, and the Government could not make any charge against the city of San Francisco for any official supervision over that right of way—

Mr. GRAVES (interposing). I understand not. I understand that you refer to things outside of anything that is indicated here.

Mr. TAYLOR of Colorado. Yes, sir.

Mr. GRAVES. Of course, there are some details and regulations in the matter of fire protection which would not be represented in here, but which are incorporated in the regulations promulgated by the Secretary of the Interior and the Secretary of Agriculture as to how brush should be disposed of, etc., and generally as to how the park interests should be protected.

Mr. TAYLOR of Colorado. That is, during the course of construction.

Mr. RAKER. Will it add any more to the cost of the Government in the way of providing forest rangers, etc., under the provisions of this bill?

Mr. GRAVES. Yes, sir.

Mr. RAKER. Practically how much?

Mr. GRAVES. It will be difficult to tell offhand. There will be some extra work, for example, connected with the marking of the timber to be cut off of the rights of way for use in construction and maintenance work, and there will be some supervisory work in connection with seeing that they carry out the regulations for the protection of the forests in the matter of fire, etc., but I think all this extra expense would be more than offset by the advantages to the Government in the greater security through the construction of roads, trails, and telephone system and the fact of having a greater number of men in there to be drawn from in case of emergency fires.

Mr. RAKER. This matter has been suggested here—whether the city and county of San Francisco will have any rights, under such rules and regulations as may be made under this bill, to charge anything for coming in and going out over these roads.

Mr. GRAVES. Do you mean like a toll road?

Mr. RAKER. Yes, sir.

Mr. GRAVES. I understand they will not have that right.

Mr. RAKER. For hotel purposes or anything like that?

Mr. GRAVES. I understand, of course, that they have rights for certain purposes.

Mr. RAKER. Would you be able to say that they would not have such powers as those indicated?

Mr. GRAVES. I have not thought of that particular point, and I should hesitate to make that statement without investigation.

Mr. RAKER. They have not. That is my view of it, and the record may show it.

Mr. TAYLOR of Colorado. Has the Department of Agriculture or the Interior Department jurisdiction over this area?

Mr. GRAVES. The Department of Agriculture has jurisdiction over the St. Stanislaus National Forest.

Mr. TAYLOR of Colorado. Who has charge of the roads up there and of the means of ingress and egress?

Mr. GRAVES. So far as these roads pass through the St. Stanislaus National Forest, the Department of Agriculture has jurisdiction, and in the Yosemite Park the Interior Department has jurisdiction.

Mr. TAYLOR of Colorado. This bill contemplates that there will be some roads built up there?

Mr. RAKER. Yes, sir.

Mr. TAYLOR of Colorado. Let me ask you this: If you succeed in getting money enough to build decent roads, are you going to allow automobiles to go in there?

Mr. GRAVES. So far as the national forests are concerned, we have always admitted automobiles.

Mr. TAYLOR of Colorado. I know that there has been a great deal of complaint from automobile users all over the country because they have not been able to go into Yellowstone and other parks with their automobiles. They feel that this is an outrage, and it seems to me that the conditions are becoming such nowadays that the departments ought to exercise their influence toward allowing these automobiles to travel through the park.

Mr. GRAVES. The park is not under our jurisdiction

JUNE 30, 1913.

Hon. SCOTT FERRIS,
*Chairman Committee on Public Lands,
House of Representatives.*

DEAR MR. FERRIS: I wish to acknowledge receipt of your request for a report upon the bill (H. R. 4319) granting to the city and county of San Francisco certain rights of way through the public lands and reservations of the United States. On June 24 the Secretary of Agriculture addressed a letter to you giving the views of this department. The Forest Service participated in the preparation of the Secretary's report, which was designed to represent the agreed policy of the department, including the Forest Service.

Very sincerely, yours,

H. S. GRAVES, *Forester.*

STATEMENT OF MR. FREDERICK H. NEWELL, DIRECTOR OF THE RECLAMATION SERVICE.

Mr. NEWELL. Mr. Chairman, in order to avoid repetition, I will simply say that I agree fully with what has been stated by the representatives of the departments in this particular case. As to this valley, I went in there 18 years ago for the first time, and studied the

water supply of the higher Sierras. I made this study in the Hetch Hetchy Valley as well as in the surrounding area. At that time there was not very much necessity for making any measurements of the water supply, but my main interest was in stimulating the largest and best use of it. It was found then that the irrigation development of the valley would require the building of a reservoir in that place. At that time we did not anticipate the needs of the city of San Francisco, and in fact gave that no consideration, but we are now fully aware that the ultimate development of the city of San Francisco will require the use of this reservoir site. Now, on the question that has come up, touching the destruction of the natural beauty of the valley, I will say that, having been concerned with the building of many large reservoirs, I have naturally come to believe that there is nothing more beautiful than a well-built dam with a reservoir behind it. The only objection I can see from the standpoint of nature lovers is that as the water lowers and a portion of the valley will be uncovered by the alternating rising and receding of the waters that portion may be unsightly unless it is thoroughly cleaned of vegetable debris before it is used as a reservoir site. But in all cases such vegetable matter is removed——

The CHAIRMAN (interposing). That would be imperative from the standpoint of sanitation, would it not?

Mr. NEWELL. Yes, sir; and if the improvement is made for irrigation purposes, it is quite important to destroy as much of the vegetation below the high-water line as possible.

I have gone over the bill in a general way and the accompanying report, and there are a few little suggestions that I have embodied in the letter I have sent to you. The Director of the Reclamation Service comes into this bill as a referee, as is indicated at various points, beginning on page 16, which provides that the maximum and minimum amounts of stored water to be released during any calendar year is to be determined by the Director of the United States Reclamation Service, or, in the event the service should be abolished, as shown on page 17, some equivalent official is to be designated by the Secretary of the Interior to perform these rather difficult duties; but as they will come in the future, perhaps in the next generation, we are not very much concerned about that. Another suggestion has been made in my letter, and that is that the determination of such official be made final. Now, on page 16, line 7, it is provided that "the said irrigation districts are to be determined and fixed by the Director of the United States Reclamation Service in accordance with the provisions of the preceding paragraph." My suggestion is that the word "final" be incorporated in that provision. Otherwise it may develop that an appeal will be taken to the courts on questions of fact, which, in my opinion, should be avoided. Some one man or some one official should be empowered by the law to determine finally the questions of fact involved. Another suggestion which has been made in the letter referred to is that, on page 25, in line 13, words be added to the effect that any necessary expenses shall be advanced by the parties at interest, so that there shall be a fund out of which to make this necessary investigation.

The CHAIRMAN. Are these suggestions embodied in your letter?

Mr. NEWELL. Yes, sir. I make that suggestion so that the Government official will be provided with adequate funds to make the

investigations in advance and not be compelled to make them on general funds that might not be available. With these suggestions embodied, I think I can fully indorse the bill.

The CHAIRMAN. Have you gone pretty thoroughly over the possibilities of irrigation over there?

Mr. NEWELL. Not in recent years. I went over it nearly 18 years ago.

The CHAIRMAN. Did you make any estimate at that time as to how much land could possibly be irrigated?

Mr. NEWELL. I think there was something like half a million acres.

The CHAIRMAN. Do you have in mind just how much is being irrigated there now?

Mr. NEWELL. I do not.

The CHAIRMAN. Have you given much time or study to the question of the quantity of water—that is, as to whether or not it will be sufficient for the needs of the city of San Francisco and for the irrigation projects there?

Mr. NEWELL. There is enough water for all of the needs of that valley. Now, the question is how much will be taken for the use of San Francisco before diminishing the supply for the valley——

The CHAIRMAN (interposing). The provisions of this bill do give the irrigation people below the natural flow of the river.

Mr. NEWELL. Yes; it makes liberal provision.

The CHAIRMAN. So that the expenditure by the city of San Francisco of from \$60,000,000 to \$77,000,000 will be for the purpose of storing the flood waters?

Mr. NEWELL. That is the contention; yes, sir.

The CHAIRMAN. Now, as to the irrigation people. In addition to those who have filed and acquired prescribed rights under the State law, it would be a question as to who would be entitled to the flood waters, the city of San Francisco or the irrigation possibilities outside of those prescribed rights. Now, from your experience as the head of the Reclamation Service, do you think it is probable or possible that the irrigation people, independent of those that are provided for, would ever form an organization compact enough to construct a dam of the magnitude of this?

Mr. NEWELL. I am in some doubt about that. At the time this thing was first discussed, 18 years ago, it was the conclusion of the parties in interest that they could not afford to build a dam of the magnitude required to store the flood waters of the river. Since then there has been a very large increase in the value of the lands to be irrigated, and the conditions then, when the construction of a dam of that magnitude was not considered feasible, are entirely different now. In the bill the limit of \$15 per acre-foot has been set as the highest possible limit, but the reservoirs which we are building are costing from \$3 to \$4 or \$5 per acre-foot. Reservoirs that are being built by municipalities are costing as high as \$60 or \$70 per acre-foot, or ten or fifteen times as much as irrigation reservoirs. It is a continually rising scale as the land values increase, and what we can afford to pay for water storage is dependent upon the land values involved.

The CHAIRMAN. Of course, if it should develop that these irrigation people could by close organization form themselves into a company and could utilize these flood waters, and the land would stand the

expense involved, then they would, in that case, be legitimate competitors for this grant, would they not?

Mr. NEWELL. To a certain extent, but those of us who have been handling this water-supply question feel that the municipal or domestic use is so far superior to any other use that it does not enter my mind that there can be any competition. When there is a demand for water for two or three purposes, we naturally argue that the domestic or municipal supply must come first; the demand for irrigation purposes comes next in order, and the demand for power purposes would come third.

The CHAIRMAN. That is the rank the uses take in your estimation?

Mr. NEWELL. Yes, sir; and they take that rank in the law.

Mr. TAYLOR of Colorado. They take that rank under the constitutions of some of the States.

Mr. NEWELL. Another way to look at it is this: A 160-acre farm will require a certain amount of water for irrigation. Now, if you cover that farm with people, or if you put a city population on it, and use the amount of water which would be necessary for the supply of these people on that 160 acres, living as densely as they would in a city, and then compare that amount with the amount used by the irrigator, you will have an idea of the relative importance of the two uses. So you will see that you can supply perhaps 100 times as many people with a domestic supply for a city as you could supply for irrigation purposes.

The CHAIRMAN. Suppose these people outside of the Turlock and Modesto irrigation districts had this grant, or suppose this grant should be refused by the city of San Francisco, are they prepared to do what is required in the way of building a dam or is the Reclamation Service prepared to do it for them?

Mr. NEWELL. I do not know what they are prepared to do. Doubtless they would endeavor to organize. As to what the Reclamation Service could do I will say that at present it has no fund which is not mortgaged for the future, and there is very little hope that the fund of the Reclamation Service will increase so as to enable us to do anything for them.

The CHAIRMAN. The Reclamation Service at this time could hold out no encouragement to them in the building of a project of that sort?

Mr. NEWELL. No, sir.

The CHAIRMAN. Could you estimate what the future possibilities of the Reclamation Service would be toward helping them?

Mr. NEWELL. It depends altogether on how liberal Congress may be in its provisions.

The CHAIRMAN. Do you mean by specific grant?

Mr. NEWELL. By a grant to make available in the fund the proceeds from the disposition of mineral lands, etc.

The CHAIRMAN. The law, as it now stands, permits them to take the proceeds from the disposition of public lands, etc., but other than that there will be no resource for helping them, except by a direct appropriation?

Mr. NEWELL. That is true.

Mr. GRAHAM. There would probably be payments made by those who are on irrigation projects already.

Mr. NEWELL. That has already been mortgaged for the future.

The CHAIRMAN. That is a kind of revolving fund.

Mr. TAYLOR of Colorado. Will this dam contemplated of the run-off of that entire watershed?

Mr. NEWELL. As I understand it, it is contemplated to build a smaller-sized dam at first and then as time goes on to increase the size until it reaches its highest useful economic capacity.

Mr. TAYLOR of Colorado. Then, this dam will not take and hold all of it—

Mr. NEWELL (interposing). The ultimate plan is to so complete the project that there will never be any possibility of need or desire to enlarge this dam for any irrigation development below.

Mr. TAYLOR of Colorado. This provides for any irrigation development below, and there will be nothing more to conserve by an enlargement?

Mr. NEWELL. That portion of the watershed will be fully conserved by the dam. Of course, there are other portions coming in below the dam which will ultimately be served, and then some of the foothills will be developed.

Mr. TAYLOR of Colorado. Is there any necessity for us to put terms in this bill that will permit the irrigators below, or any other irrigators, for that matter, to have the right, under proper regulations and conditions, to raise this dam for the purpose of increasing the storage for water, or for any other conservation development? As you say, there is not sufficient water anywhere in California, and every drop should be put to the fullest possible use. While San Francisco and this association are agreed, there is the whole State of California, and ought we not to put terms in the bill that would make provision for the more economical use hereafter?

Mr. NEWELL. So far as I am aware, there is no need of that.

Mr. TAYLOR of Colorado. There is no way of exchanging water whereby they could increase the utilization?

Mr. NEWELL. None that I know of at the present time.

The CHAIRMAN. How recently has an investigation been made out there to determine just what is the area subject to irrigation below that dam?

Mr. NEWELL. I do not know of any recent investigation.

Mr. RAKER. There was an investigation made by the State during the last year.

Mr. NEWELL. Very likely.

The CHAIRMAN. What is the total amount that the State of California has contributed to the reclamation fund from the sale of its public lands?

Mr. NEWELL. My impression is about \$5,000,000.

Mr. DENNETT. If you will allow me, there was an investigation made by the State Conservation Commission of California.

The CHAIRMAN. What was the amount contributed by the State of California?

Mr. NEWELL. Between \$5,000,000 and \$6,000,000.

The CHAIRMAN. What has been expended by your department in the State for irrigation?

Mr. NEWELL. My recollection is about 60 per cent of that amount has been expended on that portion of the work, the Yuma Indian Reservation, and in the north on Clear Lake of the Klamath project.

The CHAIRMAN. How does that compare with contributions made by other States?

Mr. NEWELL. In some cases, as the State of Arizona, I think we have spent several hundred times as much as the State has contributed. In other cases, in the case of Oklahoma, I think perhaps we have spent 1 or 2 per cent.

Mr. RAKER. There is a project being investigated now which, according to the figures made heretofore, will cost \$100,000,000. Whether or not we will get that out of the reclamation fund is another question.

Mr. WHITMAN. How many acres of land could be irrigated by this 400,000,000 gallons of water daily?

Mr. NEWELL. I think about 160,000, as an offhand guess.

Mr. DENNETT. I think possibly you stated it, but I was not very clear in my mind, that if all of the waters of the San Joaquin were utilized, there still would be irrigable land which could not be irrigated?

Mr. NEWELL. That is my belief.

Mr. DENNETT. It is also true that if all the waters of the Sacramento Valley were utilized, there would still be water which could be diverted to San Francisco?

Mr. NEWELL. I am not clear as to that.

Mr. GRAHAM. About how far is it from Sacramento by river to the place where the pumping station would probably be?

Mr. NEWELL. Fresh water?

Mr. GRAHAM. Yes, sir. Would it be a sufficient distance to get rid of the sewage of Sacramento?

Mr. NEWELL. The sewage of that whole country.

Mr. GRAHAM. There are other towns and cities between Sacramento and the pumping station?

Mr. NEWELL. Yes, sir.

Mr. GRAHAM. At the low stage of water, the sewage of Sacramento and the cities below would be a serious objection to that plan?

Mr. NEWELL. Yes, sir.

Mr. BROWN. When you estimate that 160,000 acres could be irrigated by the 400,000,000 gallons daily, what is that estimate based on?

Mr. NEWELL. The question was, give in volume the flow, and I was assuming that 1 cubic foot per second would irrigate about 100 acres.

Mr. DENNETT. Have any surveys been made by your department as to a possible reservoir outside of the forest reserve?

Mr. NEWELL. Yes, sir; we have made a number of surveys and there are quite a number of basins where a reservoir might be constructed at considerable cost, but the land is in private ownership.

Mr. DENNETT. It would be feasible to store all this water for irrigation without a reservoir at Hetch Hetchy?

Mr. NEWELL. Yes, sir. From a financial point of view, it is still an open question; from an engineering point it is feasible.

The CHAIRMAN. That is, as to whether it would stand the expense?

Mr. NEWELL. Yes, sir.

The CHAIRMAN. We are very much obliged to you, Mr. Newell. Let there be inserted in the record the written report of Director Newell at this point.

Hon. SCOTT FERRIS,
House of Representatives.

MY DEAR MR. FERRIS: Proof of the Hetch Hetchy bill (H. R. 6281) has been received, with your letter of June 23, and examined, notably as regards pages 15 to 25, which refer to the determination of amount to be paid by the irrigation districts.

It appears from the wording of this bill and previous oral discussion that it is the desire of representatives of San Francisco and of the irrigation districts to refer certain details for settlement to some presumably impartial person or official and for this purpose the Director of the Reclamation Service has been selected or (pp. 17-18), in certain contingencies, such official as may be designated by the Secretary of the Interior.

The question to be determined by the director will probably not arise for 5 or 10 years and it is impossible at the present time to predict what will be their exact nature. It is provided that these questions (pp. 16-17) are to be determined and fixed in accordance with provisions of the preceding paragraph. It does not state, however, that this determination is to be final and it may be assumed that there will be an appeal to the courts. It may be advisable to insert the words at the end of line 9, page 16, that "such determination is to be final and binding on both parties."

The bill evidently contemplates that the decision of the director shall be between the two parties in interest, viz, the city and county of San Francisco on one side and the two irrigation districts on the other. There is no reference to the third party in interest, viz, the general public or the other irrigators in the valley not included within the incorporated districts. It would, therefore, seem wise to include in the bill the fact that decisions made by the director are to take cognizance of the general public interest and that it is his duty to make decisions such as will not be inconsistent with the largest and best development of the natural resources having to do with the municipal supply, irrigation, water power, etc.

On page 25, line 11, there is provision that expenses shall be borne by the beneficiaries. It is desirable that this statement be amplified as follows:

"Said beneficiaries shall also in like manner bear the expenses of the Director of the Reclamation Service and of any necessary assistants of his office or of the Department of the Interior in connection with any decisions herein provided for or investigations necessary under the terms of this act. The estimated expense shall be advanced to the official of the department who is to make the investigation or decision. The expense shall be borne equally by the city and county of San Francisco on the one part and the irrigation districts on the other."

Very truly, yours,

F. H. NEWELL, *Director.*

(Thereupon the committee adjourned to meet to-morrow, Thursday, June 26, 1913, at 10 o'clock a. m.)

COMMITTEE ON THE PUBLIC LANDS,
 HOUSE OF REPRESENTATIVES,
Thursday, June 26, 1913.

The committee this day met, Hon. Scott Ferris (chairman) presiding.

The CHAIRMAN. Gentlemen, if you will come to order, we will see if we have a quorum present. The clerk will call the roll. Let the record show that a quorum is present.

Gentlemen, we have invited here, as you are aware, the Army board, three in number, headed by Col. Biddle, who was chairman of the board that went to San Francisco and made a personal examination and a personal report of the different stages of this situation. But for the fault of the chairman they would have been heard yesterday and would have been present in connection with the regular departmental officers, but I think it is well enough that they did not come then because we would not have had time enough to hear them. We can hear them this morning, and it has been suggested by the board that as Col. Biddle was the chairman we hear from him first, and if the other members of the board will be kind enough to listen

to his statement they can make such notations as they desire in reference to any assertions with which they may disagree, and they can follow him. So unless some member of the committee has an objection to that procedure I will ask Col. Biddle to take a seat by the stenographer.

STATEMENT OF COL. JOHN BIDDLE, CORPS OF ENGINEERS.

The CHAIRMAN. In beginning your statement tell us the dates of your examinations and when you made your report.

Col. BIDDLE. I will have to look that up in the report itself.

The CHAIRMAN. If you do not know exactly, just indicate the year and the amount of time you spent there.

Col. BIDDLE. Personally I was stationed in San Francisco from 1907 to 1911, and was in general charge of the rivers in California and in that way became familiar, to a certain extent, with them, and also with the water situation in California. In 1911 this board was appointed. At that time I was stationed in California, and the other members of the board came out there. We went over several of the most important sources of supply during that season. Last year the board again went out there and went over a number of the sources of supply.

The CHAIRMAN. So the board has made two investigations?

Col. BIDDLE. Yes. And besides that, I personally, before that time, had seen most of these places. The board did not visit the McCloud River, but I personally have been up there on two different occasions.

I do not know just exactly what you want me to say.

The CHAIRMAN. I think it would be well for you to tell the committee just what you found there; just what you think of this Tuolumne River water supply, whether it is the most feasible water supply for the city of San Francisco, and just what the situation is out there. This committee, as you are aware, is called upon to make a grant of this water supply to the city of San Francisco and to some irrigation people below, and the committee in its anxiety to do what is right about the matter and to make a proper report to the House has called you gentlemen here to help us arrive at a just conclusion about it. You may make your statement in your own way, if you care to do so, or we can ask you questions, just as you prefer.

Col. BIDDLE. Well, the conclusions of the board and largely what I would say are contained in this report.

The CHAIRMAN. We are aware that you have made quite an extensive report; but, as you are aware, many of us do not read written reports, and they are oftentimes longer than we would read. It would seem better if you could state in a few sentences what you found and what the situation is.

Col. BIDDLE. Would there be any objection to my looking at certain pages of the report in order to refresh my memory?

The CHAIRMAN. No.

Col. BIDDLE. I would like to make a general statement of the water situation of San Francisco.

The city of San Francisco obtains its water supply at present from sources all within about 50 miles of the city. It has been recognized for some years past that these sources were insufficient and therefore

San Francisco has been investigating supplies from other points. Early investigations convinced the engineers employed by the city that the most economical supply was from the upper Tuolumne River, making use of two main reservoir sites, Lake Eleanor and Hetch Hetchy Valley, lying within the Yosemite National Park. A permit was obtained for the development of these reservoir sites known as the "Garfield permit," dated May 11, 1908. Some work was done on Lake Eleanor, but none in connection with the Hetch Hetchy Valley except some surveys and purchases of land.

On February 25, 1910, the then Secretary of the Interior called upon the city of San Francisco to show cause why that part of the permit with reference to the Hetch Hetchy Valley should not be revoked, and on the request of the Secretary of the Interior a board of officers of the Engineer Corps of the Army was appointed, and Congress appropriated \$12,000 for the investigations and inspections by this board.

The chairman of the board, Col. John Biddle, had been stationed at San Francisco for about three years previous to the appointment of the board and, being in charge of the rivers of that State, was largely familiar with the situation.

The board met for a month in San Francisco in 1911 and for another month in 1912 and inspected the reservoirs within the Yosemite Valley and several other proposed sites, making a very comprehensive inspection of the available sites. In addition, Mr. H. H. Wadsworth, assistant engineer, United States Engineer Service, was secured by the board to make further investigations and examinations. Mr. Wadsworth has been in the employ of the engineer department in California and is largely familiar with the rivers and reservoir sites in central California. He spent about a year and a half on duty in this connection. The board submitted its report in February, 1913.

While the city of San Francisco makes the application, the other cities on the bay are also vitally interested, as in most cases the water supply in those communities is nearing its limit of development, and the more important ones have already taken such steps as seem desirable to join San Francisco in obtaining a new water supply.

The population around the bay in 1910 was given as 773,000, of which San Francisco had 417,000. The average water consumption was estimated at about 110 gallons per capita. In making the estimates for the future it is considered desirable to provide as far as the year 2000, when there would be an estimated population in the bay region of 3,632,000. Basing the water consumption at 130 gallons per capita, the total amount of water needed would be 540,000,000 gallons daily. The development of the near-by sources of San Francisco, including both surface sources and underground sources, it is estimated, will provide about 140,000,000 gallons daily. This includes the Spring Valley Water Co. system, which is the main supply for San Francisco; the People's Water Co., which supplies the city of Oakland; and other small companies and private plants, the latter deriving their supply largely from wells. Part of this supply is surface water and part subsurface.

There remain, then, about 400,000,000 gallons additional which should be obtained by these communities by the year 2000. The board took into consideration all possible sources of water supply. One of them, the Eel River, rises in the west of the Coast Range and

flows into the Pacific Ocean. Another, Lake Tahoe, rises on the east of the Sierras and flows into the valley. The remainder of the sources are all within what is known as the valley of California, extending some 500 miles north and south, bounded on the east by the Sierras and on the west by the Coast Range, on the north and south by other mountains, and of which the only opening is through the Sacramento River, flowing through different bays by San Francisco into the ocean.

The valley of California is divided into two main sections. The northern one, of which the main body of water is the Sacramento River, is called the Sacramento Valley, the southern one, of which the main body of water is the San Joaquin River, is called the San Joaquin Valley. The rivers rising to the west of the Coast Range are mostly small and would not furnish adequate water supply. Those rising to the east come from the Sierras and give a number of possible water supplies. One rising in the north, the McCloud River, comes from Mount Shasta and is a good supply.

A large number of these suggested supplies can be set aside with a short statement as being either unsuitable water, insufficient quantity, and not being readily combined with other sources, or already being put to public use.

There remain as possible sources the following:

The McCloud River.

The Sacramento River.

The Tuolumne River.

Any one of these would in itself give a sufficient supply.

The American-Cosumnes.

The Mokelumne.

The Stanislaus.

None of these latter would give an adequate supply, but might be combined with others.

The Yuba does not lend itself readily to combination except at considerable expense and is therefore not further considered.

There remain five supplies which were considered in detail by the board:

First, Hetch Hetchy, including Lake Eleanor on the Tuolumne River; second, Lake Eleanor-Cherry-Stanislaus-Mokelumne; third American-Cosumnes-Stanislaus-Mokelumne; these rise in the Sierras in a general easterly direction from San Francisco; fourth, McCloud River, rising in Mount Shasta; fifth, filtered supply from the Sacramento River.

The Hetch Hetchy supply is estimated to cost about \$77,000,000, spread over a number of years. The second and third sources are estimated to cost from \$97,000,000 to \$99,000,000. The Sacramento is estimated to cost \$107,000,000 and the McCloud from \$71,000,000 to \$84,000,000, the difference being as to whether the crossing shall be made at San Francisco Bay, where it is dangerous, or at Dumbarton Point, at a much greater distance but where the crossing is safer.

In addition, the Hetch Hetchy project is estimated to develop 115,000 horsepower; the second combination, 95,000 horsepower; the third combination, 62,000 horsepower; while as to the McCloud and Sacramento Rivers there is no horsepower. Moreover, in the McCloud River it will be necessary to make the greater part of the expenditure at an earlier date than with the other projects.

The Valley of the San Joaquin is less well provided with water than the Sacramento Valley. The Tuolumne, Stanislaus, and Mokelumne Rivers lie in the San Joaquin Valley, although the Mokelumne is very near the Sacramento Valley. These two valleys merge into each other and there is no well-defined line of separation. The American River and the McCloud River are in the Sacramento water system.

The data on which the board based its conclusions are given in the report of the board, with the appendix, by the assistant engineer, Mr. Wadsworth.

Mr. TAYLOR of Colorado. If you know of any reason why we should pass this bill tell us that reason.

Col. BIDDLE. Did you say why you should or should not?

Mr. TAYLOR of Colorado. Why, we should.

Col. BIDDLE. The reason why you should is that San Francisco has to have the water; that it is a perfectly practicable way and by far the most economical way.

Mr. TAYLOR of Colorado. Is it the only way?

Col. BIDDLE. It is not the only way; no, sir. There are a number of other sources which might be used, as, for instance, the McCloud River or the Sacramento River or the rivers lying to the north of the Tuolumne.

Mr. TAYLOR of Colorado. Would they furnish an adequate supply of as good water?

Col. BIDDLE. Practically so; yes, sir.

Mr. TAYLOR of Colorado. At how much more cost to the city, approximately?

Col. BIDDLE. \$20,000,000 would be the cheapest water.

Mr. TAYLOR of Colorado. Did you make any investigation to determine whether the people who would use that water would be compensated by the expenditure of that additional \$20,000,000? In other words, be benefited to that extent or more by using these other sources?

Col. BIDDLE. Well, that is rather a complicated question. As you know, the valleys of the Sacramento and San Joaquin Rivers need irrigation.

Mr. TAYLOR of Colorado. The water is very valuable?

Col. BIDDLE. Yes, sir. The San Joaquin Valley is less well watered than the Sacramento Valley, and therefore, to that extent, perhaps, the water is more needed there. That is to say, you can raise crops in the Sacramento Valley with less water, and perhaps in many places without water, while in the upper San Joaquin Valley you can not do anything without water. At the same time, I think it is quite probable that practically all of the water that can be made economically available in the Sacramento Valley will some day be used for irrigation.

Mr. TAYLOR of Colorado. I think it goes without saying that the city needs the water, and we want to give them the water. You need not make any proof of that kind. The only question is whether, in the interest of the conservation of the interests of the State generally and the agricultural development of the State of California, we ought to give them this source of supply or compel them to go to some other source of supply. I think that is the gist of this matter at the present time, and I do not think we are going to base action on the question of scenery. The real question is the practical

necessity of these waters for the city and State. That is what we want to get at.

Col. BIDDLE. There is one other question that comes in and that is the question of navigation. The San Joaquin River is practically not navigable above the city of Stockton. Up to the city of Stockton, it being tidal, the quantity of water that you would take out from that river would not be of such great importance, and could be readily compensated for by dredging and making use of the tidal action, while the Sacramento River is navigable well above the tidal action, and for that reason it will be a greater disadvantage for navigation to deprive the Sacramento River of a large part of its water and deprive the San Joaquin River of a large part of its water. I think, though, that it might be said that the water in the San Joaquin Valley is of more importance than it is in the Sacramento Valley; that is to say, there is more water to spare in the Sacramento Valley than in the San Joaquin Valley.

Mr. KENT. You made the statement that the additional cost of other supplies would amount to about \$20,000,000. It is my understanding that would not take into account what would have to be paid as damages to private property. That is merely the additional engineering cost, is it not?

Col. BIDDLE. No, sir; we have made certain allowances for that. We have estimated for water rights in the Hetch-Hetchy project of \$1,000,000, and in the other projects varying from \$4,000,000 to \$9,000,000.

Mr. KENT. But there would have to be other condemnation proceedings which would necessitate the expenditure of additional money?

Col. BIDDLE. Yes, sir; naturally there would have to be condemnation proceedings as to the right of way. In the statement I just made I did not state that the power development in the Hetch Hetchy is greater than it is in any other source of supply. So that the gain in cost would be even greater than I have stated.

The CHAIRMAN. You mean the other water supplies would be more expensive than \$20,000,000?

Col. BIDDLE. Finally; because they would not develop as much power.

The CHAIRMAN. The point you want to make is that you could develop more power at Hetch Hetchy, and in that way reduce the ultimate cost of construction?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. Did you examine all of the available sources of supply for San Francisco?

Col. BIDDLE. I have been to all of them.

The CHAIRMAN. You have been to practically all of them.

Col. BIDDLE. Not to practically all of them, but to all of them.

The CHAIRMAN. You have been to all of them?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. How many rivers or water supplies did you find which would furnish an adequate supply of water, suitable in quality and quantity, other than Hetch Hetchy for the city of San Francisco?

Col. BIDDLE. Four, anyhow.

The CHAIRMAN. You think there are four others from which an adequate supply could be obtained?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. I want to inquire of you as to the difficulties and conflicts of water rights which you encounter in each one of those four, and wish you would take them up one by one and naming first what the water power is, where it is, its name, and give the conflicts and difficulties that San Francisco would encounter in securing one of those supplies.

Mr. TAYLOR of Colorado. Do not assume that we know anything about these matters. Be elemental about those things, because the members of the committee have not had an opportunity to thoroughly study all of these questions.

Col. BIDDLE. Immediately north of the Tuolumne River are the Stanislaus and Mokelumne Rivers. These two rivers, in connection with Lakes Eleanor and Cherry, which are part of the Tuolumne watershed and lie in part in the Yosemite Park, and which have already been given to San Francisco, will make one source of supply. Of course, in that case you would have to have more money and more reservoirs.

The CHAIRMAN. How do you designate that supply?

Col. BIDDLE. The Lake Eleanor-Cherry-Stanislaus-Mokelumne supply.

The CHAIRMAN. And in order to develop that water supply you would have to dam up four independent streams or tributaries of the San Joaquin River—is that correct?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. You would have to have four dams or four reservoirs?

Col. BIDDLE. Yes, sir; and more, as there are no very extensive reservoir sites on these streams, outside of Lake Eleanor.

The CHAIRMAN. Would that be so expensive as to be prohibitive, or not?

Col. BIDDLE. The cost, as given, is about \$20,000,000 greater than the Hetch Hetchy supply.

The CHAIRMAN. What are the power possibilities there?

Col. BIDDLE. The power possibilities of the Hetch Hetchy are given as 115,000 horsepower, and this other combination would be 95,000 horsepower.

The CHAIRMAN. Ninety-five thousand horsepower from these four streams?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. And the Tuolumne River project, the one asked for in this bill, can develop 115,000 horsepower?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. What conflicts do you encounter in the way of the water rights of irrigators, and other conflicts of that character, in the four supplies you have just mentioned?

Col. BIDDLE. We estimate that the water rights of these four supplies will cost about \$6,000,000.

The CHAIRMAN. It will cost about \$6,000,000 to take up the water rights that exist there?

Col. BIDDLE. Yes; as against \$1,000,000 for the other supply.

The CHAIRMAN. Do you mean by that that they would have to take this \$6,000,000 and buy up the water rights?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. Is it possible to buy up those water rights?

Col. BIDDLE. It is possible by condemnation; yes, sir.

The CHAIRMAN. By condemnation you estimate it would cost \$6,000,000 to take up the water rights that have attached to these four independent streams that enter into the San Joaquin River?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. Would they have to condemn and buy the lands that are now irrigated and take them over, or what would be the route you would go?

Col. BIDDLE. I do not think they would have to buy the lands irrigated, but simply the rights to the water, and such reservoirs and power sites as have been acquired by the various persons or companies.

The CHAIRMAN. If we should decide to grant that supply to San Francisco we would encounter fully as many protests, or more, as we would in this instance, would we not?

Col. BIDDLE. You would probably have a number of protests as far as irrigation is concerned.

The CHAIRMAN. Would we have any protests from nature-loving fellows in that regard?

Col. BIDDLE. Not to such an extent; no, sir.

The CHAIRMAN. There would not be so many there?

Col. BIDDLE. No, sir.

The CHAIRMAN. Is any of that supply in a park of any kind?

Col. BIDDLE. Lake Eleanor is in the park.

The CHAIRMAN. In the Yosemite?

Col. BIDDLE. Yes.

The CHAIRMAN. The same as this?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. To sum the thing up, and to compare this supply with the Toulumne River supply, you would first have to pay approximately \$6,000,000 for the water rights that have already attached?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. And, second, it is assumed that you could develop 95,000 horsepower?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. And, third, we would have the same protests from the nature lovers, who do not want the park interfered with, as we have in this, would we not?

Col. BIDDLE. No, sir; because Lake Eleanor, while a very beautiful lake, is not in the same class as Hetch Hetchy.

The CHAIRMAN. You would not expect us to encounter so much protest in that direction?

Col. BIDDLE. No. I do not think the injury to the scenery of Lake Eleanor would be anything like that in the Hetch Hetchy Valley.

The CHAIRMAN. Have you been to the Hetch Hetchy Valley quite often?

Col. BIDDLE. Three times.

The CHAIRMAN. Is it a place which is frequented by many sojourners?

Col. BIDDLE. Not to-day; no, sir.

The CHAIRMAN. There are many mosquitoes in the valley, are there not?

Col. BIDDLE. On two of my visits the mosquitoes were very bad, but once I made a visit a little later in the season and there were no mosquitoes.

The CHAIRMAN. This is a place which is beautiful by reason of the high bluffs that rise on each side, but would not a beautiful lake, surrounded by a beautiful road, be just as much a matter of beauty and as attractive as now?

Col. BIDDLE. That is, of course, a matter of individual opinion. Personally I prefer the valley, but some of the other members of the board do not.

The CHAIRMAN. Do you look upon this seriously enough to think it would be wrong to make this grant, build that dam, and construct that lake for a municipal water supply for San Francisco and for these irrigation people below?

Col. BIDDLE. No, sir; largely because I think, in view of the situation in California, that all water must eventually be used, anyhow.

The CHAIRMAN. It is a question of adopting the system which will cause the least injury?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. Let us pass to the next dam site you have in mind which would furnish San Francisco with an adequate supply of water.

Col. BIDDLE. The next system, you mean?

The CHAIRMAN. Yes.

Col. BIDDLE. The next system consists of those two rivers which I have already mentioned, Stanislaus and Mokelumne.

The CHAIRMAN. You are considering those in connection with another system?

Col. BIDDLE. Yes; and it is the one next farther to the north.

The CHAIRMAN. Let us have the rivers which are embodied in this system.

Col. BIDDLE. The American, Cosumnes, Stanislaus, and Mokelumne.

The CHAIRMAN. You estimate that system would give an adequate supply without any doubt, do you?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. What would be the expense of condemnation proceedings or other means of acquiring the water rights that have already attached there?

Col. BIDDLE. The water rights are estimated at \$9,000,000.

The CHAIRMAN. It is estimated that it will take \$9,000,000 to take all of the water rights?

Col. BIDDLE. Yes, sir.

Mr. SINNOTT. Does that mean to take over these water rights?

Col. BIDDLE. If they would sell them.

Mr. SINNOTT. I would like to clear up a question in my mind, and that is whether under the laws of California water used for irrigation purposes may be condemned or appropriated by filing a suit. Do you know about that?

Mr. RAKER. That can be done.

Mr. KENT. I do not think it has been sufficiently emphasized that this alternative site that the colonel is talking about also takes water from this San Joaquin Valley.

The CHAIRMAN. Is that so?

Col. BIDDLE. Yes; I think the objections from irrigators would be about the same as in the other system.

The CHAIRMAN. Let us understand about that, because I think it is extremely important. It is a fact, is it, that if the site just men-

tioned was used it would detract from the San Joaquin Valley the same as the other?

Col. BIDDLE. Practically. The only difference is this, that as you go south in the San Joaquin Valley there is less rain and the necessity for irrigation becomes even greater. In the northern part of the San Joaquin Valley you can raise some crops, perhaps, without much irrigation, while you can raise no crops farther south. But even in this section you can raise better crops with irrigation, as you are no doubt aware, and the farmers are irrigating to an increasing extent. I think I have already stated that the objections from the irrigators would be the same here as in the other case.

The CHAIRMAN. I am glad Mr. Kent called attention to that.

Mr. CHURCH. For the reason that it is the same water that is in the other system?

Col. BIDDLE. A series of rivers is connected. First you take the Tuolumne alone; second you take part of the Tuolumne, Stanislaus, and Mokelumne; and, third, you take the American, Cosumnes, Stanislaus, and Mokelumne. They are a row of rivers rising in the Sierras and flowing in the San Joaquin except the American, which empties into the Sacramento.

The CHAIRMAN. Then, if we should grant either the Tuolumne supply, Hetch Hetchy, or the one first delineated by you, we would have the same questions to consider with reference to the San Joaquin Valley that we now have?

Col. BIDDLE. Yes, sir; but, of course, the objections would not be from the same people.

The CHAIRMAN. I understand.

Col. BIDDLE. But the same general class of protests.

The CHAIRMAN. Now, passing to the last four mentioned, what lands do we rob of irrigation there, if any?

Col. BIDDLE. Lands in about the same proportion as before.

The CHAIRMAN. But not all within San Joaquin Valley?

Col. BIDDLE. Part in the Sacramento Valley. The American River is tributary to the Sacramento; the Cosumnes River flows into the Mokelumne, and the Mokelumne River you might say is tributary to both the San Joaquin and the Sacramento.

The CHAIRMAN. What do you estimate would be the total cost of this system?

Col. BIDDLE. \$55,000,000.

The CHAIRMAN. How much for water rights?

Col. BIDDLE. Nine million dollars. That is included in that, though, sir.

The CHAIRMAN. How much power could you develop under this project?

Col. BIDDLE. Sixty-two thousand horsepower.

The CHAIRMAN. Is there any doubt about this system being adequate?

Col. BIDDLE. No, sir.

The CHAIRMAN. Is there any doubt about this supply being of proper quality?

Col. BIDDLE. The quality is equal to that of the Tuolumne except that as the Tuolumne lies within the park it will be much easier to police, and therefore the danger of becoming contaminated is much less than in the case of the other rivers.

The CHAIRMAN. As to the matter of sanitation, you think the Tuolumne River would be preferable?

Col. BIDDLE. Yes, sir.

Mr. LA FOLLETTE. This Hetch Hetchy project is the only one for which the city of San Francisco must come to Congress in order to get a grant, is it not?

Col. BIDDLE. That is my understanding. I believe they already have a right as to Lake Eleanor, which is in the park, and none of the others are in the park. They belong to private people.

The CHAIRMAN. The second one you delineated was in the park, was it not?

Col. BIDDLE. Lake Eleanor is in the park, but the other two rivers are not.

The CHAIRMAN. What is the third supply you would say is sufficient in quality and quantity?

Col. BIDDLE. McCloud River.

The CHAIRMAN. Is it in any park?

Col. BIDDLE. No, sir; although it rises in a forest reserve.

The CHAIRMAN. What would be the total expense of installing that system?

Col. BIDDLE. It would vary between \$58,000,000 and \$64,000,000, according to the place that it would cross San Francisco Bay.

The CHAIRMAN. What would be the conflicting rights there with which we would have to contend?

Col. BIDDLE. You know where the McCloud River is, do you not?

The CHAIRMAN. I have seen the map.

Col. BIDDLE. It rises on Mount Shasta and empties into the Sacramento River. The water rights are estimated at \$5,000,000.

The CHAIRMAN. The water rights are estimated at \$5,000,000, and the total expense, you said, was \$58,000,000?

Col. BIDDLE. It varies from \$58,000,000 to \$64,000,000.

The CHAIRMAN. What would the protests amount to and where would they come from? Would they come from the irrigation people with whom we would interfere in this case?

Col. BIDDLE. They are beginning now to put under irrigation a great part of the Sacramento Valley. There is a good deal of water in the Sacramento River, so that I do not know that there would be a great number of protests immediately, but eventually the sentiment would be practically the same.

Mr. RAKER. Is it not a fact that the entire Sacramento Valley is now working and has been working for 12 years upon the idea of using the McCloud River and its tributaries for the water supply of the Sacramento Valley?

Col. BIDDLE. I did not know that they were working especially for the McCloud River. I do know, however, that they are rapidly putting the whole valley under irrigation, and, of course, the McCloud River is a very important factor in that valley. I will say this, the McCloud River is a river which flows with great uniformity all the year around. In fact, it is the chief means of supply to the Sacramento River at times of low water. A large part of the irrigation in the Sacramento Valley comes from pumping from the Sacramento River, and, according to an act of Congress, as construed by the Chief of Engineers, they can not take water out of the Sacramento River when it reaches a certain stage; that is, a stage of 2 feet above low

water. When it reaches that stage of 2 feet above low water, no authority is given to pump water out of it. Now, the water in the Sacramento River reaches that stage about the time that irrigation is most important, and, therefore, if you should take away all or a large part of the McCloud River, that stage in the Sacramento River will come that much earlier and to that extent would affect irrigation.

Mr. RAKER. Is it not a further fact that the Government itself withdrew for irrigation projects, 10 or 12 years ago, all of those proposed sites that would be available here, while figuring on the Iron Canyon Dam, by which this water would be taken for the irrigation of the Sacramento Valley? Now, if this source of supply were considered, would it not, as a matter of fact, have the effect of bringing the people of the entire Sacramento Valley and of all the northern part of the State in opposition to it, and would they not be fighting and opposing us here on this very proposition?

Col. BIDDLE. I think they would if they were looking far enough ahead.

Mr. RAKER. Yes; and they are doing that now.

Col. BIDDLE. I would like to state in this connection that there is no water-power development at all on the McCloud River. I would also like to state in reference to the McCloud River that this project consists mainly of the aqueducts to carry the water, and that to bring any water a large initial expenditure is necessary, whereas on the other systems the expenditure is more gradual.

Mr. RAKER. You would consider that that would make a marked difference?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. Let me ask you about these three last-named water systems, so as to get at the situation of that supply. Could the city of San Francisco, without any law, National or State, appropriate those waters? Could the city of San Francisco appropriate those waters or file on them, or are they already appropriated?

Col. BIDDLE. No, sir; they would have to buy out the private rights.

The CHAIRMAN. From whom?

Col. BIDDLE. From the different owners; in some cases corporations and in some cases individuals.

The CHAIRMAN. They are all under private ownership?

Col. BIDDLE. Yes, sir; to a greater or less extent.

The CHAIRMAN. Is every supply that you investigated under private ownership save the Tuolumne supply?

Col. BIDDLE. And the Sacramento River.

The CHAIRMAN. And these supplies would have to come by grant, would they not?

Col. BIDDLE. The Tuolumne supply would have to come by grant. In the Sacramento River proposition there would be simply the question of pumping water out of the river.

The CHAIRMAN. Will you tell us what the initial cost of that development would be—what would be the power development, and what, if any, conflicts you would have to encounter in adopting that system?

Col. BIDDLE. The supply from the Sacramento River would be obtained by pumping at the lowest point on the Sacramento River where it is thought that fresh water can always be obtained.

The CHAIRMAN. Is that feasible?

Col. BIDDLE. Yes, sir; it is perfectly feasible.

The CHAIRMAN. It would be feasible to pump water from the Sacramento River?

Col. BIDDLE. Yes, sir; and it will cost from \$52,000,000 to \$57,000,000, according to the point at which they might cross San Francisco Bay.

The CHAIRMAN. Are there any power possibilities there?

Col. BIDDLE. None at all.

The CHAIRMAN. And the water will have to be filtered?

Col. BIDDLE. The water will have to be filtered because of the flowing of the Sacramento River and its upper tributaries through a large inhabited country. As the number of the communities on the river increase and the water is more used for irrigation, the quality of the water will suffer.

The CHAIRMAN. Are those rights appropriated by the irrigation people or other claimants, or are any of them covered by State or Federal law?

Col. BIDDLE. No, sir.

The CHAIRMAN. So you would have nothing of that kind to contend with?

Col. BIDDLE. No, sir.

The CHAIRMAN. Would protests come from any people along the stream or in the Sacramento Valley because of the need of the water for irrigation purposes?

Col. BIDDLE. All of this would be below that point, and I can not see that there would be any such protests.

The CHAIRMAN. So you would have no question of that sort there?

Col. BIDDLE. No, sir.

The CHAIRMAN. What would the city of San Francisco have to do in order to acquire the right to go ahead and construct that system?

Col. BIDDLE. Nothing at all except to buy land on the river and a right of way.

The CHAIRMAN. And the water in that river has not been appropriated in any way that would prevent them from installing a plant and pumping it out?

Col. BIDDLE. No, sir; but there would be no reason, so far as I know, why the people above should not take all of the water they want and eventually might interfere somewhat with a proper supply for San Francisco.

The CHAIRMAN. Is that a feasible plan?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. In what length of time would you say there will be a possibility of the Sacramento River being used above this point to an extent that would make the San Francisco water supply inadequate?

Col. BIDDLE. I do not think it would make it inadequate so much as it would make it unsatisfactory.

The CHAIRMAN. In what way?

Col. BIDDLE. If fresh water is taken out of the river in large quantities at low water the action of a tide would be felt farther up the river and it would become salty higher up the river than at present.

The CHAIRMAN. Salt would entirely destroy it for that purpose?

Col. BIDDLE. Yes, sir; it would destroy it for domestic uses.

The CHAIRMAN. Then, in the face of that statement, should that be considered a feasible source of supply?

Col. BIDDLE. Yes, sir; I think it is a feasible source of supply.

The CHAIRMAN. You think it would be a feasible source of supply under those conditions?

Col. BIDDLE. Yes, sir; because I think they would have to go higher up the river to take the water. I do not think it would be a satisfactory supply, but it would be a feasible supply, because as it became salty at one place the intake could be moved farther up the river.

The CHAIRMAN. This would make the fourth system that you refer to and that you think feasible, independent of the Hetch Hetchy system?

Col. BIDDLE. Yes, sir; I want to make one statement further, and that is that in these other plans, except in the McCloud River project, there is water-power development which could be used for pumping, etc. In this case there would be no water power. The water would have to be pumped from the river and, therefore, the cost of operation would be much greater.

The CHAIRMAN. Would it be prohibitive?

Col. BIDDLE. No, sir.

The CHAIRMAN. They would, however, be denied all power possibilities to reimburse them for their expenditure?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. And they would have to install a filtration system?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. And even then you think that it might not be so costly that it could not be used?

Col. BIDDLE. If there was no other source of supply, it could be used.

Mr. KENT. I would like to ask a few questions at this point. I would like to ask Col. Biddle as to the time that would be necessary to acquire these systems as compared with the Hetch Hetchy system.

Col. BIDDLE. There is no question but that it would take longer to obtain the water rights in the other systems than in the Tuolumne. As I understand the matter, whatever there was to pay for Tuolumne water rights has already been paid and the city already has them.

Mr. KENT. So that practically you have the water rights secured, and of course they will have to acquire rights of way.

The CHAIRMAN. They have already purchased the water rights?

Col. BIDDLE. I understand so.

The CHAIRMAN. To the amount, as I understand it, of \$1,678,000?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. And that the city owns a good deal of the floor of that Hetch Hetchy Valley?

Col. BIDDLE. The greater part of it.

The CHAIRMAN. Do they own any part of the dam site?

Col. BIDDLE. I think not, or only a small part.

The CHAIRMAN. Are you acquainted with the sentiment of the people of San Francisco touching the supply they desire?

Col. BIDDLE. Yes, sir; the sentiment is overwhelmingly in favor of the Hetch Hetchy supply.

The CHAIRMAN. There can be no question about that?

Col. BIDDLE. None whatever.

The CHAIRMAN. If there should be developed a mutual agreement between the irrigation people of the San Joaquin Valley and the city of San Francisco—that is, if they could agree upon a statement of facts whereby they would apportion the water equitably—what

would you say then about this being the most available and equitable source of supply?

Col. BIDDLE. If they did as you say, of course it would certainly be so, because you would then have an agreement between the irrigationists and the city, but even though they did not do that, I think it would be the most available and equitable source of supply.

The CHAIRMAN. You think it would be so, even though they did not agree?

Col. BIDDLE. Yes, sir. There is no question in my mind that the Hetch Hetchy is the best water supply for San Francisco, and that it is the most economical that can be obtained; it can be obtained more promptly, and is better in every way.

Mr. FRENCH. What is your opinion as to whether any such agreement can be entered into that would protect the irrigationists on the one side and the city upon the other?

Col. BIDDLE. There is for such lands as now use water from the Tuolumne River.

Mr. FRENCH. And for such as can be economically reclaimed in the future?

Col. BIDDLE. Yes, sir. Of course, it might be possible in the future, as lands become more valuable, to carry water up the valley even as far as Tulare Lake. The land which is tributary to the Tuolumne River, and immediately adjacent, can I think be properly irrigated and still leave enough water for the city supply.

Mr. FRENCH. Is there more land than can be economically irrigated?

Col. BIDDLE. There are some questions, I think, as to lands on the other side of the San Joaquin River, as to how they could be irrigated from the Tuolumne River, but for which no estimate has been made. That is the only place I think where it might possibly be done economically under present conditions and values.

Mr. KENT. What did you find as to the water supplies of the other bay cities that are in danger of future shortage, in connection with this matter?

Col. BIDDLE. The city of Oakland and the city of Alameda are in a very poor situation in reference to water supply. They have about reached the limit of their immediate supply. Their per capita consumption is not large and it is hard to say how they will increase that supply.

The CHAIRMAN. You have investigated on two different occasions the various water supplies of San Francisco?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. And as a result of that you find that there are five adequate sources of supply that could be developed?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. With the information before you, coupled with the results of these two investigations, if you were a member of this committee, having due regard for the rights of the irrigation people, and having due regard for the rights of the nature lovers, who believe that you should not interfere with the Yosemite National Park, and having due regard for the needs of San Francisco, which system would you vote for?

Col. BIDDLE. I would vote for the Hetch Hetchy system.

The CHAIRMAN. You would vote for the Hetch Hetchy system?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. Would you feel, in casting a vote of that kind, that you had inflicted a greater wrong upon the irrigation people and the nature lovers than if you had voted for one of the other systems?

Col. BIDDLE. No, sir. So far as the nature lovers are concerned, my own preference is for a valley for the reason that the Sierras are full of beautiful lakes. While there are of course a number of valleys, there are very few like the Hetch Hetchy. There are very few in the whole Sierras, still it would be very beautiful as a lake. The difference between the Yosemite Valley and the Hetch Hetchy, in my opinion, is this: The Yosemite is far grander than the Hetch Hetchy, but the floor of the Hetch Hetchy Valley is more attractive. The cliffs and waterfalls of that valley are wonderful and would not be injured by the creation of a lake. So with this lake you would still have a wonderful piece of scenery. Then, of course, the facilities that the city would give would afford more people an opportunity to visit the valley.

The CHAIRMAN. Have you had occasion to read this "agreed substitute bill," we are considering?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. How would the requirements in that bill with reference to the construction of roads, trails, telephone systems, etc., weigh against the natural beauties of the valley?

Col. BIDDLE. I think the city of San Francisco is agreeing to do a very reasonable thing and that the roads and trails required will satisfy the demands.

The CHAIRMAN. Don't you think, as a matter of fact, that the roads, trails, telephones, etc., that would come with this water supply development, would enhance the usefulness of the park from the standpoint of poor people who can not now go there?

Col. BIDDLE. Yes, sir.

The CHAIRMAN. As matters now stand it would be pretty extravagant for poor people to undertake to go there?

Col. BIDDLE. It is impossible for them to go in there unless they go in with knapsacks on their backs.

The CHAIRMAN. Poor people do not visit it at all, do they?

Col. BIDDLE. I would not say that, because it is one of the great delights of Californians, even if they are not well off, to take knapsacks on their backs and go to the Sierras; but they do not really stay long in the Hetch Hetchy Valley. The point is this: In the early summer the mosquitoes are bad, and in the late summer it is too hot in the Hetch Hetchy Valley. It is about 3,000 or 4,000 feet in altitude and the people want to go up to 6,000 or 8,000 feet. Now, another thing in reference to that aspect of it: One of the most beautiful objects or features in the Hetch Hetchy Valley is a fall which comes down in a crooked kind of way called the Wapama Falls. One of the projects is that if the city is denied the use of the Hetch Hetchy supply, it shall be permitted to turn this creek into Lake Eleanor, and I think that Hetch Hetchy Valley without these falls would lose one of its most beautiful assets.

The CHAIRMAN. Have you in mind the area of the entire Yosemite National Park, including the Hetch Hetchy Valley? Could you give the total area?

Col. BIDDLE. I have not the figures at hand.

Mr. TAYLOR of Arkansas. Some one gave that information yesterday.

The CHAIRMAN. How much land would actually be flooded if this proposed dam was constructed?

Col. BIDDLE. It would be a body 7 or 8 miles long and $1\frac{1}{2}$ miles wide at the widest part.

The CHAIRMAN. Then, if there are practically 1,500 square miles in the whole Yosemite Park, and if this project would flood only about 12,000 or 15,000 acres, it would not destroy the whole park, as is assumed by some people?

Col. BIDDLE. No, sir; it would not destroy the whole park, although it would destroy a valley which is very beautiful. The trees are more varied there than in the Yosemite Valley.

Mr. JOHNSON. Have you any knowledge as to the amount of the natural flow of water in the sources of the Hetch Hetchy—I mean at the normal stage?

Col. BIDDLE. We have that data, I think.

Mr. JOHNSON. Can you give it, approximately?

Col. BIDDLE. It is stated in this report here that it is estimated that with a storage of 750,000 acre-feet, the necessary 400,000,000 gallons daily can be taken to San Francisco, while usually giving the full reasonable requirements of 640 square miles of the irrigation district.

Mr. JOHNSON. Perhaps you could give the information in another way. Do you know whether the natural flow of that source has been appropriated by prior users?

Col. BIDDLE. No, sir; I do know that it has not been. The only appropriations, so far as we know, are the appropriations of the Turlock and Modesto districts and the appropriation for a power plant called the La Grange power plant. There are some other claimants not recognized by the city, but the city assumes the responsibility for these, and if they have rights they can obtain legal redress.

Mr. JOHNSON. Can you state what proportion of the ordinary flow has been appropriated?

Col. BIDDLE. I do not see that in the report just now.

Mr. JOHNSON. To what purpose is it now appropriated—that is, that portion which has been used?

Col. BIDDLE. It is appropriated for a small power plant and for the irrigation of the Turlock and Modesto irrigation districts.

Mr. JOHNSON. The power plant is situated below the proposed dam, is it not?

Col. BIDDLE. Yes, sir.

Mr. JOHNSON. So it will be interfered with by this dam?

Col. BIDDLE. Except that the city has admitted that right, and will allow enough water to go by to fulfill it.

Mr. JOHNSON. It is proposed to conserve a large quantity of water for the city of San Francisco by means of this reservoir?

Col. BIDDLE. Yes, sir; by means of this and other reservoirs.

Mr. JOHNSON. Will they be able to conserve by means of this reservoir a sufficient supply for the needs of San Francisco, or will they have to use a portion of the normal flow of the stream?

Col. BIDDLE. There will be a sufficient quantity, we believe, with proper storage.

Mr. JOHNSON. Over and above the normal flow of the stream?

Col. BIDDLE. Yes, sir; a sufficient quantity for San Francisco and to supply all existing rights.

Mr. JOHNSON. Do you know whether or not there are any public lands in this valley that would come under this water supply that have not yet been reclaimed?

Col. BIDDLE. I do not think there are any public lands there. I do not know of any. You see the public lands are usually in the mountains and the lands in the valleys are usually under private ownership.

Mr. JOHNSON. There are several municipalities around the Bay of San Francisco, also, that will use this water, are there not?

Col. BIDDLE. Yes, sir; Oakland, Alameda, and others.

Mr. JOHNSON. Are you informed as to the amount of water that these additional municipalities would require?

Col. BIDDLE. It is believed that 400,000,000 gallons, in addition to present supplies, will include all of them.

Mr. JOHNSON. Including San Francisco?

Col. BIDDLE. Yes, sir. I want to state that in all of our estimates here we have supposed that San Francisco will develop to a reasonable extent its present water supply.

This is a private company, called the Spring Valley Water Co., and if the city does not buy it it is assumed they will make arrangements to develop and use it.

Mr. JOHNSON. You are familiar with the terms of this proposed bill?

Col. BIDDLE. I have read it over.

Mr. JOHNSON. Do you think that ample provision is made in the bill for the protection of Alameda, Oakland, and the other cities around the bay?

Col. BIDDLE. I did not go into that part of it especially. The only thing I feel about it is that it will be to the interest of San Francisco to have them join in this cost, and it seems to me that they will necessarily do it.

Mr. KENT. I would like to revert to the question of the normal flow and the appropriation of this water supply. I am informed that the normal flow is 2,350 second-feet, that there are now being used 1,800 second-feet for these irrigation districts, and that the city of San Francisco, under these stipulations in the bill, guarantees to the irrigators what the normal flow amounts to during all of the year except two months, and that during the months of April and May they guarantee an additional amount up to 4,000 second-feet.

Col. BIDDLE. I do not understand what you mean by the normal flow.

Mr. KENT. The flow at other times than flood times. I mean during the irrigation season.

Col. BIDDLE. No, sir; because quite early in the season, I should say in July, anyhow, the Tuolumne River gets much below that stage. As a matter of fact, when we went over the Turlock and Modesto districts last year in August they were shy of water and were doling it out with great care.

Mr. KENT. This guarantees 2,350 second-feet?

Col. BIDDLE. Only when that amount of water flows naturally in the river.

Mr. KENT. That would be increased.

Col. BIDDLE. At such times as the Tuolumne River carries 2,350 cubic feet or more per second then the irrigation district is allowed that amount, but when the river flows less than that amount the district is allowed only what is carried in the river.

Mr. SINNOTT. Are there any other cities besides Oakland and Alameda that should be considered in connection with this?

Col. BIDDLE. I think it is quite likely that San Jose would come into it and also a number of small cities lying around San Francisco Bay.

Mr. CHURCH. I would like to ask Col. Biddle some general questions. Col. Biddle, are the Sacramento and San Joaquin Valleys united?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. By what are they separated?

Col. BIDDLE. There is no well-defined boundary between them. The Mokelumne River is usually considered the boundary, but at some stages of the river it flows into the Sacramento River, and at other stages it flows into the San Joaquin River.

Mr. CHURCH. What is the length of these two valleys—running from north to south, in the State of California?

Col. BIDDLE. I should think about 500 miles.

Mr. CHURCH. About what is the average width of that valley, that is, of that one valley which we have called the Sacramento Valley and San Joaquin Valley?

Col. BIDDLE. The flat part of it is about 50 miles wide, and, of course, the foothills extend out farther.

Mr. JOHNSON. That is the great inland valley of the State?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. And the western boundary of that valley is about how far from the coast; that is, from the Pacific Ocean?

Col. BIDDLE. In the southern part, I should say probably about 40 or 50 miles.

Mr. CHURCH. There is a range of mountains between this valley and the coast?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. That is the Coast Range. San Francisco is located on the coast, is it not?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. About how far from the western boundary of this valley?

Col. BIDDLE. I should say about 25 or 30 miles.

Mr. CHURCH. This valley is a level valley, generally speaking, is it not?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. And originally it was a very dry waste tract of land?

Col. BIDDLE. In the southern end part of it was. The northern part was, of course, a great wheat-raising country.

Mr. CHURCH. It was originally covered with sagebrush and was not used until later by means of irrigation?

Col. BIDDLE. No, sir. A large part of the northern part of it has been used for raising wheat without irrigation.

Mr. CHURCH. But occasionally when there was a very dry year there would be no wheat crop?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. What is the great river that runs down through the northern part of the State?

Col. BIDDLE. The Sacramento River.

Mr. CHURCH. This great valley we are speaking of is bounded on the east by the Sierra Nevada Mountains?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. And there are various rivers that flow from the Sierra Nevada Mountains into the Sacramento River?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. The Sacramento River carries all the water into San Francisco Bay that comes from the mountains on either side of the Sacramento Valley?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. What great river is in the San Joaquin Valley?

Col. BIDDLE. The San Joaquin River.

Mr. CHURCH. And into it flows the rivers that come down from the Sierra Nevada Mountains east of the San Joaquin Valley?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. Can you tell us how many acres there are in the San Joaquin Valley?

Col. BIDDLE. I have those figures, but I can not give them offhand.

Mr. DENNETT. I have the report of the conservation commission of California, which gives all of that data. It could be obtained from that report.

The CHAIRMAN. Can you turn to those figures? If you can, let them go in the record.

Mr. CHURCH. I think this would be a good time to get that information in the record.

Col. BIDDLE. It is in the million acres, but I do not know just exactly.

Mr. DENNETT. Seven million five hundred and seventy-six thousand acres, of which 6,530,000 acres are in the valley floor.

Mr. CHURCH. That is all I want there.

The CHAIRMAN. Do you want to get the figures as to the other valley at this time?

Mr. CHURCH. That is what I am going to ask about now. Col. Biddle, do you know the number of acres in the Sacramento Valley?

Col. BIDDLE. I can not recall the exact figures, but it is in the million acres.

The CHAIRMAN. Have you those figures, Mr. Dennett?

Mr. DENNETT. I will find them in just a minute.

Mr. RAKER. I think we would save a great deal of time if we could get all of this data together. This question covers the subject as to lands lying in a certain altitude, and, of course, the witness has not segregated that land. If he will get all of that data together we would have it in better shape.

Mr. CHURCH. I think the valley is what we are asking about—that is, the amount of valley land. I think that has been segregated, has it not, Mr. Dennett?

Mr. DENNETT. It is segregated in the report on Sacramento Valley. They divide it into several sections, which makes it difficult to get the total.

The CHAIRMAN. You mean it is classified as irrigable and non-irrigable land?

Mr. DENNETT. No; there are some adjacent valleys which are deducted from the Sacramento Valley acreage in this report.

The CHAIRMAN. Do the figures which you give relate to lands that have been classified by the conservation commission of California as irrigable lands?

Mr. DENNETT. I can not say as to that.

The CHAIRMAN. I should think that would be important.

Mr. DENNETT. They give, probably, the total irrigable area.

The CHAIRMAN. Are you giving for the record, in response to Mr. Church's question, the irrigable lands in the Sacramento Valley?

Mr. DENNETT. Yes, sir.

Mr. CHURCH. And also in the San Joaquin Valley?

Mr. DENNETT. Yes, sir.

Mr. CHURCH. We will confine the inquiry, then, to those two. Give us the irrigable lands in the Sacramento Valley, if you will—the number of acres.

Mr. BROWN. While he is looking up that data may I ask the Colonel some questions?

The CHAIRMAN. Yes.

Mr. BROWN. There appears to be two kinds of water supply; one is a gravity supply and the other is a pumping supply. Have you made any figures as to the increased cost to the consumer of water delivered by pumping instead of by gravity flow?

Col. BIDDLE. I think I made the general statement that the cost of operation of the Sacramento River pumped supply will be greater than that of the others.

Mr. BROWN. For instance, in the city of New York they sell water to the consumer by the thousand gallons and charge him \$1 a thousand. How much more would they have to charge in the city of New York if they had to pump their water instead of using gravity flow? Is it 2 per cent or 3 per cent, or is it an appreciable amount or a negative amount?

Col. BIDDLE. It is an appreciable amount; yes.

Mr. BROWN. Would it be safe to assume from 2 to 3 per cent more?

Col. BIDDLE. Mr. Hazen makes an estimate, for filtration and pumping, of \$25 per million gallons.

Mr. BROWN. Well, that would be 2½ cents a thousand?

Col. BIDDLE. Yes, sir.

Mr. BROWN. And would be a 2½ per cent increase for filtration?

Col. BIDDLE. It might be more. That is an actual increase of 2½ cents.

Mr. BROWN. Do you think that is a reasonable estimate?

Col. BIDDLE. I think so.

Mr. CHURCH. That is not the excess. That is the amount of pumping—\$25 per million gallons?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. That does not show what the amount is by getting it the other way, Mr. Brown.

Mr. BROWN. I was trying to get at the difference to the consumer.

Mr. CHURCH. You will have to find out what the price would be on the other system.

Mr. BROWN. That is true. But taking a certain figure, for the sake of argument, as the cost of constructing plants, and so on, I was endeavoring to ascertain how much would be added if you pumped the water.

Col. BIDDLE. You understand that in the other cases there is available water power, but in the Sacramento project there is no possible power development. While we are waiting I may say in connection with the use of the park that while, of course, this lake only covers a small portion of the park, there are certain restrictions in all of the park within this watershed. I believe, and the rest of the board believe, that these restrictions are such as should be made anyhow, if the park is to be used by any large number of people. It would be dangerous for the people using the park not to have restrictions, because they use the water from these streams and they would be liable to contamination.

The CHAIRMAN. There is a provision in this bill that if the restrictions upon the use of the park ever become more onerous than they are now that San Francisco must put in a filtration plant, and thereby obviate any additional restrictions.

Col. BIDDLE. I think that as soon as the park begins to be used to any extent it would be necessary to have the same rules for the protection of campers as for the protection of the people of San Francisco.

Mr. TAYLOR of Colorado. When did you say this Army board was appointed?

Col. BIDDLE. 1910.

Mr. TAYLOR of Colorado. When did you first go out there as a board to investigate?

Col. BIDDLE. 1911 and 1912.

Mr. TAYLOR of Colorado. What time in 1911 was it?

Col. BIDDLE. In the summer; July, I think, or August.

Mr. TAYLOR of Colorado. How long were you out there investigating at that time?

Col. BIDDLE. About a month, I think. I was stationed out there, so I do not remember the exact time the board was there.

Mr. TAYLOR of Colorado. Then, when did you go again?

Col. BIDDLE. We have only been those two times.

Mr. TAYLOR of Colorado. What was the next time?

Col. BIDDLE. 1912.

Mr. TAYLOR of Colorado. What time was it last year?

Col. BIDDLE. August, I think; July and August. The whole board was only out there about a month. I went out there the 1st of June and was out there about three months.

Mr. TAYLOR of Colorado. You were going over these various sites?

Col. BIDDLE. Yes, sir; I want to add that we had an office out there during all of that time, and we had Mr. Wadsworth, whose report is appended here, working for the board in California for about a year and a half out of two and a half the board was studying the question. The board made certain inspections, then directed Mr. Wadsworth to obtain further data and make further studies.

Mr. TAYLOR of Colorado. What do you mean by saying a year and a half of those two and a half years?

Col. BIDDLE. From 1910 until to-day, two years and a half.

Mr. TAYLOR of Colorado. You were appointed three years ago, were you?

Col. BIDDLE. Yes, sir.

Mr. TAYLOR of Colorado. And this man Wadsworth, you say, was making investigations of these various sites?

Col. BIDDLE. Not all of the time, but part of the time.

Mr. TAYLOR of Colorado. And the two other members of the board were out there a month in 1911 and a month in 1912?

Col. BIDDLE. At least a month; yes, sir.

Mr. TAYLOR of Colorado. Going over these five sites and making all of these estimations?

Col. BIDDLE. I do not mean to say that we visited every reservoir site mentioned there; we visited the more important ones and we visited Hetch Hetchy and Lake Eleanor twice. While I am not acquainted with all the sites, I am acquainted with all the rivers.

Mr. TAYLOR of Colorado. Did you make surveys of them?

Col. BIDDLE. Mr. Wadsworth made certain surveys, in connection with data he had on hand, in order to determine whether the surveys were sufficiently accurate, and if they were not, he had new surveys made.

Mr. TAYLOR of Colorado. Did you make plats of all of them from which to make these estimates?

Col. BIDDLE. Sufficient for the purpose; yes, sir.

Mr. TAYLOR of Colorado. Do you think it necessary, in view of your having made this investigation of these five sites, together with the year and a half's work done by Mr. Wadsworth, that the people of San Francisco should take three years to file a map of their proposed location?

Col. BIDDLE. As I understand it, they have to file a map all the way from San Francisco to the valley.

Mr. TAYLOR of Colorado. Would it take three years?

Col. BIDDLE. I suppose it could be done in less time, if necessary. I understand the bill says, "within that time," but it is to their advantage to do it as soon as possible, and if there is no reason why they should not, I presume they will. I want to add that the surveys for the city of San Francisco must be more accurate than our surveys.

Mr. TAYLOR of Colorado. I understand that. What I was trying to get at is this: Suppose, as you have testified, there are five different sites from which the city of San Francisco can get a sufficiently good water supply—while I do not have very much patience with the sentiment of conserving things for future generations at the expense of the present generation, nevertheless, assuming, for instance, that the people can get a domestic supply from five different sources, and that there is a large amount of agricultural land that can be irrigated from one of those sources or possibly two of those sources, we will say, which would have to remain forever barren if water for domestic use was taken from those sources, and if the water for the domestic use was taken from one of the other three sources this barren land could ultimately be brought into a state of cultivation, have you estimated the ultimate benefit to the State of California and the nation generally—assuming that each member of this committee is a Congressman at large from the State of California and the United States, not from San Francisco—have you estimated what would be our duty, looking at it broadly and ultimately for the development of that commonwealth, as compared with the present desire to use the water merely for the city of San Francisco?

In other words, have you considered whether or not we should grant the request of San Francisco to give it good and cheap water, or as cheap as possible, and ignore the possible agricultural developments of that State? That is the way I would like to get at it. Personally,

I want to see San Francisco get the water; she needs it, there is no question about that, and she must have it, and we are going to help give it to her, but the question is whether or not there are any considerations which we should consider other than the proposition offered by these gentlemen who are now so harmonious on all of these matters. I am not talking about nature lovers or nature fakers or scenery lovers, or anything of that kind; I am talking about the practical development of the State.

Col. BIDDLE. It would be my idea to provide in the best way for the actual amount of land that can eventually be brought under the best cultivation. If the Tuolumne River is left reserved for irrigation of the San Joaquin Valley and the water for San Francisco is taken from some of the northern sources, there would probably be eventually more acres under cultivation than if the Tuolumne is allowed San Francisco. But while under this suggestion a large part of the land in the Sacramento Valley will be under cultivation it would not be under the best cultivation as it would not have sufficient water. If it is wished to put the land in the Sacramento Valley under the best cultivation, so as to produce the greatest crops, then I think the water of the Sacramento can be used beneficially. It becomes then a question as to whether you benefit the lands in the southern part of the State or the lands in the northern part of the State. But the eventual gain to the State, as far as I can judge, would be about the same, as far as the use of water for irrigation is concerned. This is judging from present knowledge and present values.

Mr. TAYLOR of Colorado. And you think that if you take the Hetch Hetchy site it will permit development to the north proportionately as great as by not taking it would permit development to the south?

Col. BIDDLE. Yes, sir, with that one proviso, that land in the north can be used for crops, not good crops, but can be used, while the land in the far south can be used for practically nothing but grazing.

Mr. TAYLOR of Colorado. The land in the far south produces crops that the land in the north does not produce?

Col. BIDDLE. No, sir. I understand that the best oranges are supposed to be grown in Oroville. It is a fact that while in California everything grows everywhere, certain things grow better in certain portions of California, and the earliest and best oranges are supposed to be grown in Oroville, and also the best olives.

Mr. CHURCH. Is it not a fact that there is only a basketful of oranges produced in the Sacramento Valley?

Col. BIDDLE. I do not know about that.

Mr. RAKER. There were carloads of oranges shipped out of northern California before they thought of gathering oranges in southern California.

Col. BIDDLE. I suppose that the land around the Los Angeles district will sell on an average for a higher price than land in the Sacramento Valley. At the same time, oranges, other fruits, and a great many other staples are grown in the Sacramento Valley.

Mr. TAYLOR of Colorado. If there are 100,000 acres of land down below there that could be irrigated from this source and the city of San Francisco could get an available water supply without appreciably depriving any other site, I presume there is no procedure whereby this land down below could bond itself and pump or take this water and compel the city to exchange and take other water in the future, is there?

Col. BIDDLE. I heard Mr. Kent say that the State legislature could pass acts which would permit that.

Mr. TAYLOR of Colorado. Under their constitution?

Col. BIDDLE. Yes, sir.

Mr. DECKER. The idea I am beginning to get is that ultimately, when that State comes to its full development, they are going to be short of water anyway, whoever gets this water.

Col. BIDDLE. Yes, sir.

Mr. DECKER. Both ends of the State and the middle.

Col. BIDDLE. Yes, sir.

Mr. CHURCH. I think that is a grave question. I think the proposition in the Sacramento Valley right now is the proposition of redeeming the valley from water, and that the proposition in the San Joaquin Valley is the proposition of irrigation, to get water with which to irrigate their lands.

Mr. RAKER. The same thing applies to the lowlands in the San Joaquin Valley as in the Sacramento Valley, and the upper regions are just the same.

Col. BIDDLE. That is undoubtedly true. In the marsh lands of the Sacramento Valley and the San Joaquin Valley that is no doubt true, and the marsh lands of the Sacramento are probably more extensive than in the San Joaquin, generally speaking. But when you get out of those marsh lands the lands need irrigation in both valleys. As I have stated already, you can raise some crops without irrigation in the Sacramento Valley, while in the San Joaquin Valley, in the southern part, you can raise few only very poor crops without irrigation. The best development of the lands in the Sacramento Valley, however, can be done through irrigation.

Mr. RAKER. Is it not a fact that there are many thousands of acres in the Sacramento Valley, in the northern part, on which no crops are raised to-day because of the lack of irrigation, just exactly as in the San Joaquin Valley? I think they both stand in the same position; that is, according to my own personal observation.

Col. BIDDLE. But I think there are more lands in the San Joaquin Valley which absolutely depend on water.

Mr. RAKER. I think so myself.

Col. BIDDLE. But you take all of these foothills, of both the San Joaquin and Sacramento Valleys, and they practically raise nothing without irrigation, and with irrigation they raise quite wonderful crops.

Mr. CHURCH. Can we now get the irrigable lands in the Sacramento Valley?

Mr. DENNETT. From page 143 of the report of the Conservation Commission of the State of California—

Mr. CHURCH. What year?

Mr. DENNETT. For the year 1912, it appears that the total area irrigable in the Sacramento Valley, classified as valley lands—we have two classifications—is 2,659,000 acres. The plain agricultural lands are 790,000 acres.

Mr. CHURCH. Those are nonirrigable?

Mr. DENNETT. No; they are irrigable.

Mr. KENT. Bench lands?

Mr. DENNETT. Yes, sir.

The CHAIRMAN. Can you get water up on the bench lands?

Mr. DENNETT. Yes, sir.

Mr. CHURCH. What is the acreage of the bench lands?

Mr. DENNETT. Seven hundred and ninety thousand acres.

The CHAIRMAN. Let us have some data as to the San Joaquin.

Mr. DENNETT. In the San Joaquin Valley, on page 223 of the same report, it gives 6,530,000 acres of valley and 1,046,000 acres of plains.

The CHAIRMAN. Is all of that irrigable land?

Mr. DENNETT. Yes, sir.

The CHAIRMAN. That is in the San Joaquin Valley?

Mr. DENNETT. Yes, sir. The plains lands, of course, are the bench lands.

Mr. RAKER. What does it give there as to the Sacramento Valley; as to the higher lands? In other words, the foothill lands subject to irrigation?

Mr. DENNETT. Seven hundred and ninety thousand acres.

Mr. RAKER. No; let me call your attention to it. We may as well get this in plainly.

Mr. DENNETT. That is a table giving all the different counties [indicating].

Mr. RAKER. I want to call the committee's attention to this fact—

Mr. CHURCH (interposing). I would like to pursue my examination.

Mr. RAKER. All right.

Mr. CHURCH. According to that report, the valley and bench lands in the Sacramento, as I have figured it, amount to 3,449,000 acres, while the valley land and the bench land in the San Joaquin amount to 7,976,000 acres. Now, Col. Biddle, can you tell us the annual flow or drainage from the mountains into the Sacramento River?

Col. BIDDLE. There are no very definite figures on it, although I have some data.

Mr. CHURCH. You have some data?

Col. BIDDLE. I think so; yes, sir.

Mr. CHURCH. I understood there were some definite figures on that, both as to the Sacramento River and also as to the San Joaquin River. That has been my understanding, but I may be mistaken.

Mr. TAYLOR of Colorado. Have not all of those streams been gauged for many years and official figures gathered showing the flow and run-off?

Col. BIDDLE. No, sir; but for the last few years they have been gauged pretty thoroughly. Before that time the gauging was very uncertain, and the estimates are largely—well, they are simply estimates; they are nothing further.

Mr. CHURCH. You do not think you could give that information, Colonel?

The CHAIRMAN. That is in this report, is it not?

Col. BIDDLE. That is my idea.

Mr. FRENCH. That matter seems to be covered on pages 18 to 22, inclusive.

Mr. TAYLOR of Colorado. Do you not have the streams in California officially gauged?

Col. BIDDLE. Yes; it is being done now, and for 10 and 15 years past.

Mr. TAYLOR of Colorado. But it has not been done heretofore?

Col. BIDDLE. Only in spots.

Mr. CHURCH. If we could get that in the record now it would help.

Mr. RAKER. The Reclamation Service and the Geological Survey have kept gauges of the rivers for the last 12 years.

Mr. CHURCH. I would suggest, if it meets with the approval of the chairman, that we go on, and when this information is gathered it be inserted in the record at this point.

The CHAIRMAN. I think that is a good idea. Who will be responsible in furnishing that information to the stenographer? Will you, Mr. Church?

Mr. CHURCH. Will you furnish it to the stenographer, Col. Biddle?

Col. BIDDLE. Yes, sir.

(The information furnished by Col. Biddle follows:)

The Geological Survey gives the following general information: The total flow of the Sacramento system for a year is estimated at about 24,500,000 acre-feet; of the San Joaquin system 11,500,000 acre-feet, a little less than half. The floor of the Sacramento Valley is estimated as 4,250 square miles; of the San Joaquin Valley about 11,500 square miles, or nearly three times as large. These areas are somewhat undefined, and may include some nonirrigable land in both valleys. It is seen, however, that about six times as much water per acre exists in the Sacramento Valley as in the San Joaquin. It should be added that while this water may exist, it may be impossible to store or commercially use it.

Mr. CHURCH. How far is this Hetch Hetchy Reservoir site from San Francisco?

Col. BIDDLE. About 160 miles.

Mr. CHURCH. How far is this McCloud project from San Francisco?

Col. BIDDLE. I think it is nearly 200 miles.

Mr. CHURCH. How far are they apart, or about how far are they apart? Just give a rough estimate.

Col. BIDDLE. The Hetch Hetchy project is directly east of San Francisco and the other is directly north, so that it would be whatever is the hypotenuse of that triangle.

Mr. CHURCH. The Hetch Hetchy Valley is opposite the San Joaquin Valley in the Sierra Nevada Mountains, while the McCloud River is north of the Sacramento Valley and is also in the mountains?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. Are they probably 125 miles apart?

Col. BIDDLE. More than that, I should say; I should say 250 miles apart.

Mr. CHURCH. You spoke of the possibility of getting water by pumping it from the Sacramento River and going up high enough on the Sacramento River so as not to encounter the difficulty of salt water from the sea?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. About how far up would you have to go on that river from San Francisco to get to a point that you think the water could be pumped and not be contaminated by salt water from the sea?

Col. BIDDLE. About 50 or 60 miles, I should say—as far up as Rio Vista.

Mr. CHURCH. You estimate that is a distance of about 50 or 60 miles?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. And of course that water would have to be brought to San Francisco by means of conduits or flumes?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. As it would also have to be brought by conduits from Hetch Hetchy?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. Then, if the water were brought from this proposed pumping project, these conduits would be about 100 miles shorter or that project would be about 100 miles nearer to San Francisco?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. And that of course would cut down some of the expense?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. And you say that that project would not interfere with anyone's rights below, because it would be so near the sea that no one below would be using the water for irrigation?

Col. BIDDLE. The only way I can conceive of a conflict would be that if the water became very low the city of San Francisco might enjoin people from taking it out of the river farther up.

Mr. CHURCH. Do you think the water would ever become so low as that?

Col. BIDDLE. I think it possible that it might become so low. That would be extremely low water.

Mr. CHURCH. Would it not be simply a matter of sinking more wells?

Col. BIDDLE. The project contemplated the pumping of water from the river itself and not from wells.

Mr. CHURCH. Would it not be possible to go into the hills east of Oakland, in the San Clara Valley, and pump it out of the river and obtain a supply sufficient for the needs of San Francisco?

Col. BIDDLE. We have considered San Francisco and the other cities as developing all of their near-by sources of supply to the extent of 133,000,000 gallons daily.

Mr. CHURCH. Does it pump any water?

Col. BIDDLE. Yes, sir; all the water that comes from the Alameda Creek system is pumped.

Mr. CHURCH. Did you examine all of the water supplies of the State of California that might be used by San Francisco?

Col. BIDDLE. I must have been to them all.

Mr. CHURCH. Do you know where Clear Lake is?

Col. BIDDLE. Yes, sir. I have not been personally to Clear Lake, but to the stream that runs out of it.

Mr. CHURCH. You know that Clear Lake is a body of water 35 miles long, with a width of about 12 miles, and very deep?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. What is the altitude of that lake over San Francisco? It would be 4,000 feet, would it not?

Col. BIDDLE. I do not think so.

Mr. CHURCH. Would you say 3,000 feet?

Col. BIDDLE. I do not know, but I should say about 1,000 feet. This is what the report says about Clear Lake and Cache Creek:

Cache Creek rises in the Coast Range and is tributary to the Sacramento River. Clear Lake empties into Cache Creek. Its use would interfere with irrigation development, and the water is not of the excellent quality of other sources.

Mr. CHURCH. It would have to be filtered, the same as the water that is pumped?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. The irrigationists have no right to lower the level of the lake, have they, by their irrigation enterprises?

Col. BIDDLE. I do not see why not.

Mr. CHURCH. Do you understand that they have the right to all the water in that great inland lake?

Col. BIDDLE. That is my understanding, but I have not gone into that especially.

Mr. CHURCH. I do not understand it that way. That is a lake 35 miles long and 12 miles in width, with a depth of several hundred feet.

Col. BIDDLE. It has not a very large catchment area—you understand that.

Mr. CHURCH. Those are the general questions I wanted to ask.

The CHAIRMAN. You asked a few moments ago about the gauging of the streams and the amount of the water supply in the Tuolumne River. That appears on page 35 of the report, running over on page 36. If the committee would like to hear it, I can read it into the record, or it can be handed to the stenographer for insertion in the record.

Mr. CHURCH. I would like to hear it read.

The CHAIRMAN. It reads as follows:

The determination of the amount of water flowing in the Tuolumne has been mainly deduced from records at the La Grange Dam, the point of diversion for the Turlock-Modesto district. This was gauged from 1878 to 1884 by the State of California, and by the United States Geological Survey from 1895 to date. Rainfall records at La Grange date from 1878. There are few records for the upper watersheds. The upper Tuolumne has been gauged by the city for only three years. As this is such a short period, the results obtained by applying to other years the same proportion of run-off for upper and low watersheds as is indicated by the three-year record can not be considered conclusive. At the same time this is all the direct evidence available. In order to assist further in the estimation of this important result, the records of the upper and lower Stanislaus from 1905 to date have been used for comparison. These records are necessarily incomplete, and therefore to that extent unsatisfactory, but would seem sufficient to arrive at general conclusions. On the calculations made from these records it is estimated that with a storage of 750,000 acre-feet the necessary 400 M. G. D. can be taken to San Francisco, while usually giving the full reasonable requirements of 640 square miles of the irrigation district. Of this 750,000 acre-feet storage about 560,000 acre-feet would be necessary for the city to obtain 400 M. G. D. and the remainder for irrigation. Some years the water supply for irrigation would have been short, as, for example, in 1898, 40 per cent; in 1908, 14 per cent; and in 1912, 14 per cent. With a storage capacity of 900,000 acre-feet there would have been sufficient water for irrigation except in 1898. For the latter year a storage capacity of 1,400,000 acre-feet would have been required and would be practically impossible to obtain economically.

To determine the possibilities of storage an investigation has been made of possible reservoir sites in the Tuolumne Basin and the following table deduced therefrom. In the columns headed "utilizable" is given the amount which during the dry years mentioned could be counted on from these reservoirs. This table divides the reservoirs as follows:

1. Those which are on drainage areas tributary to Hetch Hetchy and Cherry Valleys and Lake Eleanor, and which might become available for either a city water supply or for irrigation. These make up over 80 per cent of the total capacity.

2. Those on other tributaries of the Tuolumne, which could not be advantageously used in connection with the city supply now projected by San Francisco.

Tuolumne River reservoir sites.

Site.	Height of dam.	Capacity (acre-feet).		Total capacity.
		Total.	Utilizable 1896-1901.	
On Hetch Hetchy, Lake Eleanor, and Cherry Valley watersheds:	<i>Feet.</i>			<i>M. G.</i>
Hetch Hetchy.....	325	344,000	344,000	112,000
Kibbie Lake.....	40	3,300	3,300	1,100
Lake Eleanor.....	245	265,200		86,500
Cherry Valley.....	150	56,800	207,200	18,500
Cherry Creek—				
Big Lake.....	30	2,600	2,600	850
Buck Meadow.....	30	3,000	3,000	1,000
Emigrant Lake.....	60	14,300	14,300	4,650
Louise Canyon.....	100	9,900	9,900	3,200
Huckleberry Lake.....	100	52,200	19,700	17,000
Falls Creek—				
Vernon Lake.....	125	47,900		15,600
Wilmer Lake.....	115	5,800	42,700	1,900
Tilden Lake.....	120	27,800	8,300	9,100
Tuolumne Meadows.....	75	43,200	43,200	14,100
Lake Benson.....	160	53,800	39,400	17,500
Poopenaut Valley.....	235	52,100	52,100	17,000
Total.....		981,900	789,700	320,000
Outside Hetch Hetchy, Lake Eleanor, and Cherry Valley watersheds:				
Erraras Meadows.....	40	1,100	All.	370
Bells Meadows.....	60	6,300	All.	2,100
Coffin Hollow.....	35	2,200	All.	730
Hulls Meadow.....	100	8,000	All.	2,600
Dallas and Warner Lake.....		60,000	All.	19,500
Davis.....		48,000	All.	15,600
Dickinson.....		60,000	All.	19,500
Bradford.....		40,000	All.	13,000
Rock Creek.....		5,000	All.	1,600
Total.....		230,600	230,600	75,000
Grand total.....		1,212,500	1,020,300	395,000

It is seen from this table that reservoir capacity exists for preserving sufficient flow for both city supply and irrigation except in exceptional years, when irrigation would suffer. Some of the reservoirs it may not be advisable to construct, as that on the Tuolumne Meadows, which meadows should be reserved for campers. Some of the reservoirs are located so high in the mountains that they will not fill except in years of very high rainfall and should be kept for emergencies.

Mr. CHURCH. You do not understand that that answers the question that I was asking for data on?

Mr. KENT. It deals with that question.

Mr. DECKER. I would like to ask some questions. Mr. Church has brought out the fact that the flow of the Sacramento River is about ten times as much as the flow of the San Joaquin River and that there is less irrigable land in the Sacramento River Valley than in the San Joaquin Valley. In other words, that the river which has the most water in it has less irrigable land adjacent to it. This raises a very important question, it seems to me, for this committee to consider on the question of conservation. We all agree that the water should be used for the best purpose for all. But there is something else to be considered in connection with this matter. How does that water come down the Sacramento Valley; does it come in floods or in a steady flow that can be used? In other words, what use could you make of this abundant water supply in the Sacramento River? Could it be stored up for use as in the other river?

Col. BIDDLE. It comes down in floods of short duration. As I recall, the greatest recorded flood was 600,000 cubic feet per second, or about that, and then at low water it is about 5,000 cubic feet per second, so that it varies between those figures—that is, from 5,000 feet to 600,000 cubic feet per second.

Mr. DECKER. How about the Hetch Hetchy?

Col. BIDDLE. That also has floods in the same way.

Mr. DECKER. How would you utilize that water for irrigation purposes?

Col. BIDDLE. The facilities for reservoir sites, as far as they have been developed and studied, are better in the San Joaquin Valley than they are in the Sacramento Valley.

Mr. DECKER. In other words, while the Sacramento River has more water, you are not so sure that all of it could be utilized for irrigation?

Col. BIDDLE. Yes; economically. Of course you could stop all the water by building a series of dams, but it might not pay. I know that the Sacramento Valley is much better supplied with water than the San Joaquin Valley and that the San Joaquin Valley will suffer first from a lack of water; but I am not prepared to admit that all the water in the Sacramento River can not be used satisfactorily in the Sacramento Valley.

The CHAIRMAN. Please state why.

Col. BIDDLE. Because the land there needs that water for irrigation.

Mr. DECKER. Can they use all of it economically?

Col. BIDDLE. According to the present value of land and according to the present studies that have been made of reservoir sites it can not be used economically, but as lands become more valuable and as further studies develop more sites, it may be used economically, although it can not be used to the full extent economically now.

Mr. CHURCH. Is it not a fact that it has been admitted that there is enough water coming from the Sierra Nevada Mountains and the coast range mountains flowing into the Sacramento Valley, if distributed over the irrigable portions of the Sacramento Valley, to cover it to a depth of 11 feet?

Col. BIDDLE. Yes, sir; I have heard something to that general effect, more or less.

Mr. CHURCH. And also that a similar estimate has been made in reference to the San Joaquin Valley, and that the estimate is that if all of the water that flows from the Sierra Nevada Mountains down the San Joaquin Valley were distributed in the same way it would cover the San Joaquin Valley, or the irrigable portions of it, to a depth of about 18 inches?

Col. BIDDLE. I do not remember the exact figures, but I think probably it would be about that.

Mr. CHURCH. In regard to this pumping-plant project that might be installed upon the Sacramento River—that, I suppose, could be instituted at once, could it not?

Col. BIDDLE. Yes, sir.

Mr. CHURCH. How long would it take to institute and properly equip a pumping plant of that kind and put it into operation?

Col. BIDDLE. The main difficulty would be in crossing San Francisco Bay.

Mr. CHURCH. Just please estimate, in your judgment as an engineer, about the length of time it would take to properly install this pumping plant project.

Col. BIDDLE. Three or four years.

Mr. CHURCH. In three or four years they would be receiving water from the wells that would be sunk?

Col. BIDDLE. From the river itself; not from wells. The idea, of course, would be to have a number of separate aqueducts and a number of separate filtration plants.

Mr. CHURCH. They could get water relief in San Francisco, according to your judgment, from this proposed project in three or four years?

Col. BIDDLE. Yes, sir; but they could also get relief to a great extent by further development of the Spring Valley supply within that time.

Mr. CHURCH. About how long a time would it take to get relief in these emergency times from Hetch Hetchy?

Col. BIDDLE. I do not remember Mr. Freeman's estimate, but I think he estimated that it could be done in four years.

Mr. KENT. That Sacramento supply, as I understand it, would necessitate a filtration plant at once?

Col. BIDDLE. Yes, sir.

Mr. KENT. Is that proposed project far enough away from the bay to be entirely beyond any danger from salt water?

Col. BIDDLE. It is assumed that way, and if it is not the city will have to go farther upstream. So far as using the water in the Sacramento River goes, it is used for drinking purposes above Rio Vista to-day.

Mr. KENT. It is of very inferior quality, is it not?

Col. BIDDLE. I do not think it is inferior to the Washington water. It is on a river that is inhabited.

Mr. KENT. How about its quality for lime and hardness?

Col. BIDDLE. Its hardness is somewhat less than that of the water at Washington, and it is somewhat greater than that of the other supplies. It is a pretty fair average water, I believe.

Mr. KENT. Hetch Hetchy water, I understand, is softer than other supplies.

Col. BIDDLE. Yes, sir; the Sacramento water is less hard than the Spring Valley water to-day. The report of the Board of Engineers states the advantages and disadvantages of this Sacramento supply as follows:

The advantages of this source are the ample quantity, the doing away with a storage reservoir, the noninterference with any existing rights, the freedom from legal difficulties, and the shortness of the aqueduct.

Mr. CHURCH. And that makes how many advantages that this system possesses over any of the others?

Col. BIDDLE. The first would not be an advantage over the others because ample quantities exist in all of them.

Mr. CHURCH. How many advantages are there in this project over the others?

Col. BIDDLE. The doing away with a storage, the noninterference with any existing rights, the freedom from legal difficulties, and the shortness of the aqueduct.

Mr. CHURCH. And add to that also that it could be secured much more rapidly than the others.

Col. BIDDLE. There would not be much difference. One estimate is three years and the other estimate is four years. Of course, in this connection, the development in the Spring Valley supply would largely help them out of any immediate difficulty. The disadvantages of this supply are stated as follows:

The disadvantages are the high cost for the full amount, the large cost of operation, the dependence on filtering beds, the relative hardness of the water, its deterioration in quality as the country becomes settled. The crossing of the bay near the city of Oakland is longer, and in case of damage by earthquake the aqueduct would be much more difficult to repair than at Dumbarton Point, where the Tuolumne River Aqueduct would cross.

Mr. CHURCH. I would suggest the question of whether the aqueduct could not take a different route and not lose over 10 miles and go across at the same place.

Col. BIDDLE. We have estimated on that, and the difference in cost is \$5,000,000 to do that.

Mr. SINNOTT. How many gallons did you estimate as necessary per capita to properly supply San Francisco?

Col. BIDDLE. I have not those figures right here.

Mr. TAYLOR of Colorado. Does that estimate of 400,000,000 gallons for San Francisco include also the needs of Alameda, Oakland, and the surrounding bay towns?

Col. BIDDLE. Yes, sir; all the surrounding bay towns, in connection with about 140,000,000 gallons daily from nearby sources, making a total of 540,000,000 gallons daily.

Mr. TAYLOR of Colorado. How much increase in population does this provide for?

Col. BIDDLE. It is estimated that in the year 2,000 the population of the bay region would be 3,632,000, and the estimate was based on 130 gallons daily per capita. That was estimated as a reasonable amount.

Mr. TAYLOR of Colorado. What is the population around that bay now?

Col. BIDDLE. It is in the neighborhood of a million.

Mr. DUNNIGAN. The population of San Francisco is 416,000, the population of Oakland is approximately 370,000, the population of Alameda is 70,000 or 80,000, and the population of Richmond is 17,000. Then the suburban towns adjacent to San Francisco, on the peninsula, have been growing very rapidly, and the total population, from the school census and newspaper circulation, is estimated at approximately 1,000,000 in the proposed metropolitan water district.

Mr. DECKER. Has there ever been any estimate of the percentage of the overflow of water in the Sacramento River that could be prevented?

Col. BIDDLE. Yes, sir. In the report of the California Débris Commission that matter is taken up. That report was submitted a year or so ago, and in it a plan was proposed for confining all of the water of the Sacramento River within its banks by means of by-passes. The cost of that was about \$33,000,000.

Mr. DECKER. I mean by storing it?

Col. BIDDLE. Yes, sir.

Mr. DECKER. The Geological Survey has made an investigation of the possibilities of storage reservoirs in the Sierras, but I do not think that anything has developed from it up to date.

Col. BIDDLE. I do not know the figures obtained.

Mr. DECKER. I do not remember the exact figures.

Col. BIDDLE. But I do not think that the known storage capacity will conserve a relatively small proportion of the full flow of the Sacramento River.

Mr. O'SHAUGHNESSY. In the report of the California Débris Commission was there an estimate made of possible reservoirs that could be made in the mountains and of the practicability of retaining that water? If I remember aright, the total volume of the possible reservoirs was only 5 per cent of the entire flow.

Col. BIDDLE. Those figures are about right, as I recall it. But on the other hand, the Débris Commission did not make any thorough investigation in that respect, because it satisfied itself that, while possibly there might be other reservoir sites, yet the cost of reclaiming the lands from flood by means of reservoirs was so much greater than the cost of reclaiming them by levees that the board did not go into a very thorough investigation of the reservoir sites. There may be other reservoir sites that were not considered. The board simply took the data at hand.

Mr. RAKER. Coming back to the McCloud River source of supply, I understand from the report that the water would be taken from the McCloud River alone without any estimate or figuring as to the Pitt River?

Col. BIDDLE. Yes, sir.

Mr. RAKER. The water would be taken higher up on the McCloud River, and above the junction of the McCloud and Pitt Rivers?

Col. BIDDLE. Yes, sir; the water would be taken from the river higher up, about a mile above where it joins the Pitt River.

Mr. RAKER. And you have not figured on locating it so as to take the water from the McCloud and Pitt Rivers together?

Col. BIDDLE. No, sir. Our estimate was made on the McCloud River.

Mr. RAKER. Why was not the estimate made on both rivers?

Col. BIDDLE. Becasue there is plenty of water in the McCloud River for all needs. You see that river comes from Mount Shasta, and the least flow is twice what San Francisco needs.

Mr. RAKER. It is a continual flow, is it not?

Col. BIDDLE. In its lowest stages it is nearly twice as much as San Francisco needs.

Mr. RAKER. There is no necessity for a reservoir on the McCloud for holding back the water?

Col. BIDDLE. No.

Mr. RAKER. And in connection with that, there are many valleys back from the beginning of the McCloud that are now inhabited, are there not?

Col. BIDDLE. No, sir; there are very few.

Mr. RAKER. There is a good deal of settlement in that country, is there not?

Col. BIDDLE. Not very much. There is one big lumber camp, but when the lumber is cut down, which will be before many years, that camp will disappear.

Mr. RAKER. That is the McCloud lumber camp?

Col. BIDDLE. Yes, sir.

Mr. RAKER. That whole territory is covered with lumber, is it not?

Col. BIDDLE. Yes, sir.

Mr. RAKER. The greater part of it?

Col. BIDDLE. Yes, sir.

Mr. RAKER. And there are many summer residences there now?

Col. BIDDLE. Yes, sir; some.

Mr. RAKER. Quite a good many, are there not?

Col. BIDDLE. I should say about 20.

Mr. RAKER. The question of supplying the Sacramento River with water for navigation has not been brought into any of these discussions as yet.

Col. BIDDLE. I have mentioned it; yes, sir.

Mr. RAKER. That is, the question of the effect upon the navigability of the Sacramento River has not been brought in. Is it not a fact that the principal supply that keeps up the Sacramento River in the summer time is the McCloud River?

Col. BIDDLE. Yes, sir; the McCloud River's lowest flow, as I recollect it, is about 1,100 or 1,200 cubic feet, and the total flow of the Sacramento is only 5,000 feet, so that one stream gives nearly one-quarter of the flow.

Mr. RAKER. Is it not a fact that if that quantity of water was taken from the McCloud River it would seriously affect navigation, particularly to Red Bluff?

Col. BIDDLE. Well, navigation to Red Bluff would not be particularly affected. It does not amount to much anyhow, and can be carried on only at quite high stages of the river, and the taking away of the amount of water would affect navigation for only a few days. Navigation to Chico and Colusa would, however, be affected quite seriously.

Mr. RAKER. Between Sacramento, Colusa, and Chico?

Col. BIDDLE. Yes, sir.

Mr. RAKER. Could you give any idea as to the length of time it would affect the navigation?

Col. BIDDLE. Well, there is navigation to Colusa the whole year around and to Chico, as I recollect, about eight or nine months, and I think it would affect navigation to Chico perhaps two or three months in the year.

Mr. RAKER. In the estimate of \$33,000,000 for the purpose of improving the Sacramento River for navigation, you have not taken into consideration the withdrawal of this quantity of water from the Sacramento, have you? In other words, the cost would be considerably more if water was withdrawn from the river at its source, would it not?

Col. BIDDLE. I do not quite understand that.

Mr. RAKER. You have made an estimate as to the cost of putting the Sacramento River into navigable condition practically up to Chico Landing, the cost being \$33,000,000.

Col. BIDDLE. That \$33,000,000 was not so much for navigation as it was for the protection from overflow.

Mr. RAKER. Well, I am taking the general estimate for the improvement of the river. In that estimate you have not taken into consider-

ation the withdrawal of this quantity of water from the source of supply, have you?

Col. BIDDLE. No, sir.

Mr. RAKER. And that would mean considerable increase, would it not?

Col. BIDDLE. It would affect navigation, undoubtedly.

Mr. RAKER. And that is a very large and important enterprise in the Sacramento Valley, is it not?

Col. BIDDLE. Up as far as Sacramento navigation is very important, and I think will always be important. Above Sacramento I think it is a question which will have to be decided by the country or by the State as to which becomes the more important, irrigation or navigation, and one may have to be sacrificed for the other.

Mr. RAKER. In this estimate as to the cost of water and of getting the rights, have you estimated in that \$9,000,000 the taking of water from those who are already using it and have the right to use water from the Sacramento River below Red Bluff? I do not find it here.

Col. BIDDLE. No; it is simply for rights on the McCloud.

Mr. RAKER. Is it not a fact that rights have been granted by the Government, and that there are large plants on the Sacramento River, and that they have to depend entirely upon the flow of the river, and that it is often short in the summer time?

Col. BIDDLE. Yes, sir; there is no question but what it would interfere largely with irrigation in the low stages of the river. But it is a legal question as to whether the right given by the Government is such as to prevent San Francisco from taking it out above.

Mr. RAKER. The Government has already agreed that the people may divert water from the Sacramento River during its low stages for use during the irrigating season of May, June, July, August, and September, has it not?

Col. BIDDLE. No, sir; you have that wrong.

Mr. RAKER. In what way?

Col. BIDDLE. I understand that these irrigation districts can take water from the Sacramento River when it is 2 feet or over above low water, and therefore at low water, which includes the months of July and August that you mentioned, no water can be taken.

Col. TAYLOR. That is simply a waiver of objection on the part of the Government—that is to say, no right has been granted—but the people who wish to withdraw water have simply been told that the War Department will raise no objection to their taking it when the water is above a certain stage; but the department does not give them any rights at all.

Mr. RAKER. What I am getting at is this: If this supply were taken from the river, it would lessen the chances of getting water, even in the months preceding those named by you?

Col. BIDDLE. It would mean that some districts would be deprived of water.

Mr. RAKER. In other words, those districts might get to the point where they would be shut off?

Col. BIDDLE. Yes, sir.

Mr. RAKER. And the Government having given them the right to withdraw a certain amount of water when it was at a certain stage, if this quantity were taken from the river they would be entirely deprived of taking water out of the river?

Col. BIDDLE. That much earlier, yes, sir; and that is quite an important time.

Mr. RAKER. It is the time when they need it there.

Col. BIDDLE. They need it, probably, in June.

Mr. RAKER. They must have invested there in the neighborhood of \$20,000,000, if not more.

Col. BIDDLE. They have done so much since I have been out there that I do not know.

Mr. LONG. It is nearly \$30,000,000.

Mr. RAKER. I wanted to be conservative, but I think the plants running, and those contemplated, would amount to something like \$30,000,000 or \$40,000,000, from what they tell me. Now, if water was taken from the upper Sacramento the lands which are to be put under irrigation would be deprived of water just the same as in the south?

Col. BIDDLE. Yes; unless there could be found suitable sites for storage, but up to date sufficient suitable sites have not been found, although the country has been well studied.

Mr. RAKER. You could not say whether the estimates given as to the amount of land in the Sacramento Valley is correct or not, could you?

Col. BIDDLE. That is my recollection, but I would not like to state offhand.

Mr. RAKER. That means the entire irrigable lands in the Sacramento Valley?

Col. BIDDLE. That is as I understand it.

Mr. RAKER. Now, in regard to the San Joaquin, that includes all the land in the San Joaquin clear down below Bakersfield?

Col. BIDDLE. That is my understanding; it includes everything to the foot of the Tehachapi Mountains.

Mr. RAKER. What part of the valley is within the Tuolumne watershed now; that is, the water that actually flows from the Tuolumne River, and its tributaries, on into the San Joaquin, and then on into the bay?

Col. BIDDLE. Well, the Turlock-Modesto district is the only one that is directly adjacent to the Tuolumne proper, but on the other side of the San Joaquin River it could be pumped.

Mr. RAKER. Leave out the pumping proposition; I am talking about this annual flow. I want you to state the number of acres that are south of the watershed of the Tuolumne River that flows into Tulare Lake.

Col. BIDDLE. I do not know, sir.

Mr. RAKER. Two-thirds of this acreage is tributary to Tulare Lake, is it not?

Col. BIDDLE. A very large proportion of the San Joaquin Valley is tributary to Tulare Lake.

Mr. RAKER. Would the waters of that lake be utilized, or could arrangements be made to utilize this flow into Tulare Lake that goes to waste? Have you made any estimates regarding that?

Col. BIDDLE. The two rivers in that part of the country are the Kern River and the Kings River, and they do use a large proportion of the water for irrigation.

Mr. RAKER. If the water that is now going to waste into Tulare Lake were properly conserved, what quantity could be used to irrigate this land which has been named, if you know?

Col. BIDDLE. I do not know. I do know that from the San Joaquin River, principally, and some of the other rivers, there is a large quantity of water that goes to waste every year.

Mr. RAKER. What is the size of Lake Tulare? Could you give us any general idea?

Col. BIDDLE. It varies from year to year. You know it is very flat and very shallow. I guess it is about 30 miles across. It is quite a big-sized lake, but it varies from year to year.

Mr. RAKER. In regard to the flood waters of the Sacramento, is it not a fact that possibly four-fifths of it during flood time originates in the foothills? In other words, so low down that there would not be any chance of building dams and reservoirs to hold it for irrigation?

Col. BIDDLE. No, sir; I would not say that, although, of course, a large amount of water falling in the valleys and foothills will be almost impracticable to conserve.

Mr. RAKER. How much would you think?

Col. BIDDLE. Well, we have here some estimates as to what we think should be conserved in the Tuolumne.

Mr. RAKER. Take the American River, the Feather River, and the others, and my impression is that a large percentage rises in the foothills and makes its flood within a few days.

Col. BIDDLE. There is no question about a large quantity rising in the foothills, but I am not able to give the percentage.

Mr. RAKER. What I want to get before the committee from the engineers is approximately the quantity of water that runs off in flood times and which it is not possible to hold back by reservoirs and dams. I think the committee ought to have that information.

Col. BIDDLE. The question as to the foothill reservoirs in both of these valleys has never been very thoroughly studied, so it is impossible to make those estimates now. For instance, in the Turlock-Modesto irrigation district they are constructing some foothill reservoirs pretty well down the mountain and on the edge of district, and therefore they ought to get in a good deal of water for storage. The location of the Lagrange Dam is not far up the Tuolumne River; there is a large watershed above this dam and below the Hetch Hetchy and Lake Eleanor Reservoirs, so that these foothill reservoirs should conserve a considerable amount of water reaching the Tuolumne below Hetch Hetchy and the mouth of Cherry Creek. The Lagrange Dam is the diverting dam of the Modesto-Turlock district.

Mr. RAKER. Now, going back to the Hetch Hetchy for the moment, I observe in the report that you have taken into consideration the sanitary conditions in connection with the building of the Hetch Hetchy Dam. Do you think those restrictions cover the situation as well as they can in order to give the greatest use of the park and the rivers?

Col. BIDDLE. Will you please repeat that question?

Mr. RAKER. I think in your report you have gone into the question of the sanitary conditions in the watershed of the Hetch Hetchy, and I want to ask you whether those conditions are such as will give the largest use of the park and of the rest of the rivers which have been studied and which are mentioned in the report by the board?

Col. BIDDLE. I am of the opinion that if the park is used by any large number of people regulations fully as stringent as those would have to be adopted.

Mr. RAKER. Will the regulations as included in your report and as included in this bill retard the use of this park or prevent the use of this park by those who desire to go in there for sight-seeing purposes?

Col. BIDDLE. It does not seem to me that any of these regulations would do that.

Mr. RAKER. Now, as to the scenic beauty. I have read the report of Mr. Freeman and your report upon this matter, and you have taken Mr. Freeman's report in figuring the least damage that could be done to the scenic conditions of the park by virtue of the dam which is to be constructed and by virtue of the roads which are to be built.

Col. BIDDLE. We have taken the city's proposition; yes, sir.

Mr. RAKER. Is it feasible to build the roads to and from the reservoir, around the reservoir, and the other roads and trails specified in Mr. Freeman's report?

Col. BIDDLE. Absolutely, I think, sir.

Mr. RAKER. You think it is a fair proposition to build those roads, do you?

Col. BIDDLE. I do; yes, sir.

Mr. RAKER. Will not that, from the general viewpoint, increase the utility of the park as well as add to the beauty of it in the years to come; that is, with the lake there and roads about it?

Col. BIDDLE. It would certainly increase the facilities of getting to the park.

Mr. RAKER. How about the beauty of it?

Col. BIDDLE. That is a matter of individual judgment, you see.

Mr. RAKER. Entirely?

Col. BIDDLE. I think so. But even those who, like myself, believe in the greater beauty of the valley do not think that it will be absolutely ruined by the lake. It is just a question of which you prefer, but I think it will still be a very beautiful place, and if I had to give up the Wapama Falls, as I mentioned above, I think I would rather give up the floor of the valley than those falls.

Mr. RAKER. Can you state to the committee anything with regard to the kind and character of timber as now on the floor and on the hillsides which will have to be covered up or have to be removed if a dam is placed there?

Col. BIDDLE. It is largely pine, of course, but in the valley there are oaks, maples, and some other trees; I do not remember just what they are. There is a greater variety of trees in the Hetch Hetchy Valley than there is in the Yosemite Valley, and largely oaks, as I recollect.

Mr. RAKER. That would not be much of a destruction, would it?

Col. BIDDLE. Well, it is all in the loss to the valley floor.

Col. TAYLOR. He means the value of the timber.

Col. BIDDLE. Oh, no; and this bill requires the city to pay for any timber it cuts down. As a matter of fact, a large part of the floor of this valley belongs to the city and they own a good deal of this fine timber.

Mr. RAKER. From the general conditions there, can a railroad be built which would be useful to the city and county in its construction work and then left for general use?

Col. BIDDLE. They do not propose a railroad, but there is a railroad to the Yosemite as far as El Portal, and the situation is somewhat similar. I do not see any reason why it could not be built.

Mr. RAKER. But no railroad is contemplated in the report? That is what I wanted to bring out.

Col. BIDDLE. No. As I understand the proposition of the city, it is to build a construction railroad as far as the dam site, and then to use the grade of that railroad as a wagon road. No railroads have been allowed within the park limits up to date.

Mr. RAKER. Would there be any injury to the park if the railroad was continued after being used for construction purposes?

Col. BIDDLE. I think a railroad always interferes, more or less, with the beauty of any natural scenery.

Mr. RAKER. I think that is all.

Mr. TAYLOR of Colorado. Does any other member of the committee desire to ask the colonel any questions? If not, do you wish to make any further statement, Colonel?

Col. BIDDLE. I do not think so.

Mr. TAYLOR of Colorado. Does any one outside of the committee desire to cross-examine this witness?

Mr. WHITMAN. Yes; I would like to ask a few questions. In the mountains directly north of San Francisco there is the Eel River, and I would like to ask you whether that water could be used for irrigation?

Col. BIDDLE. Not very well; no.

Mr. WHITMAN. That is really running to waste into the Pacific Ocean, is it not?

Col. BIDDLE. Well, part of that is used for power.

Mr. WHITMAN. But a large part of it runs to waste?

Col. BIDDLE. Yes, sir.

Mr. WHITMAN. Then there is the Feather River, which is one of the northern rivers of the valley into which the Western Pacific comes. Your engineers report that there 400,000,000 gallons could be used without interfering with irrigation. Is that your understanding?

Col. BIDDLE. Well, the same rule for irrigation applies to the Feather River as applies to the McCloud River and all of the northern rivers; and what I have said about one will apply to them all.

Mr. WHITMAN. But I mean the territory adjacent to the Feather River itself. The irrigation lands would not be interfered with by taking the water, but less would possibly be lost farther down.

Col. BIDDLE. Yes, sir.

Mr. WHITMAN. And then one further question: At what period in the future do you think it will be before this 400,000,000-gallon development can be used?

Col. BIDDLE. Well we estimate on the basis of the year 2000.

Mr. WHITMAN. So that this committee is now considering what San Francisco will do in the year 2000?

Col. BIDDLE. From now until the year 2000.

Mr. RAKER. The Feather River flows in conjunction with Indian Valley, does it not?

Col. BIDDLE. Yes, sir.

Mr. RAKER. That is a thickly settled community, is it not?

Col. BIDDLE. Yes, sir; fairly so.

Mr. RAKER. And the land surrounding that valley is mineral land, is it not?

Col. BIDDLE. Yes, sir. But the point is that as to the Feather River there was no real reason for using it, so we did not consider it further.

Mr. RAKER. Now, just one other question. Have you made any investigation as to Big Meadows?

Col. BIDDLE. There have been investigations; yes, sir.

Mr. RAKER. What would be the supply from Big Meadows, taking the dam as now being constructed?

Col. BIDDLE. It is not stated in the report as far as I can now see. All I know is that we took up the general question of the different reservoirs.

Mr. RAKER. But you made no report on that at all?

Col. BIDDLE. There may be a report, but I do not see it here.

Mr. RAKER. In other words, these are all shown not to be feasible?

Col. BIDDLE. I would not say they were not feasible. San Francisco wished the right to use the Tuolumne, and if the Tuolumne could not be had, would have sought another supply, but in no case would the city have gone to the Feather River. Therefore there seemed really little use in investigating more in detail a supply which while feasible was hardly suitable and which San Francisco would not think of using.

Mr. LONG. On page 84 of the report there is a reference to Eel River, and I would like that noted in the record so the committee will understand that you have considered these river propositions.

Col. BIDDLE. The question of the Eel River is this: You can only get about 200,000,000 gallons a day, or perhaps a little more, and eventually that would not be sufficient, and you would have to go somewhere else.

Mr. RAKER. And it would be very costly?

Col. BIDDLE. Yes, sir.

Mr. FRENCH. Is there anything in that connection which would lead you to consider the Russian River?

Col. BIDDLE. No.

Mr. FRENCH. It is not suitable?

Col. BIDDLE. Not at all.

Mr. FRENCH. And there could be no combination of rivers which could be used in connection with that river?

Col. BIDDLE. Not to give the required quantity.

Mr. WHITMAN. At what period of time have you estimated that San Francisco's water supply would give out; that is, its regular water supply in connection with that from the Spring Valley source?

Col. BIDDLE. I estimate that by the year 2,000 the city of San Francisco and the other bay communities will need 540,000,000 gallons daily, of which about 140,000,000 gallons daily would be supplied by the Spring Valley source. That would leave over 400,000,000 gallons to be obtained from outside sources. It would seem that the proposed project on the Eel River would provide 200,000,000 gallons a day. That would carry it not quite two-thirds of that time, which would be about 50 or 60 years from now; that is, that source would provide the supply to about 1960.

Mr. LONG. Is it not quite likely that the fast-growing section in the Russian River Valley will need all this water for irrigation purposes?

Col. BIDDLE. They will certainly need all from the Russian River and from a part of the Eel River. I think the Russian River section will need all of that. I do not know that you are familiar with the Russian River Valley, but it is a very important summering place for San Franciscans. In the summer there are a series of small camps all along the stream, and there are also quite a number of small communities in that section, so I think eventually that water and a large part of the water in the Eel River will be needed by those communities.

Mr. DENNETT. In determining the cost of the various San Joaquin and Sacramento River supplies, did you determine the units of cost in the same way as you did in the case of the Tuolumne River supply?

Col. BIDDLE. We endeavored to make them as nearly the same as conditions warranted. We tried to get the unit price or cost throughout. Of course, there was some consideration that reduced the unit cost in some situations, such as proximity to railroads and facilities of that sort.

Mr. CHURCH. Do you know anything about a project known as the Blue Lake Water Co. project?

Col. BIDDLE. That is the Mokelumne River project. We have considered that in connection with the other project, and I will read what the report says:

Mokelumne River.—This river is a tributary of the San Joaquin. It has been given consideration as a source of supply for San Francisco since about 1877, and recently has been offered by the Sierra Blue Lake Water & Power Co. The waters are used to a certain extent for power and irrigation, and it is probable that in the future a much larger use would be naturally made for irrigation. The amount that could be obtained has been variously estimated by the company and others up to 200,000,000 gallons daily, and even more. Most of these estimates appear too large, and probably only about 128,000,000 gallons daily could be counted on. It could be used in connection with other supplies.

Mr. DENNETT. I notice that in almost all of these San Joaquin and Sacramento River projects due allowance is made for the irrigation of lands, and not only for land that is now being irrigated, but for land which in the distant future may be irrigated. Now, do you think it quite fair to make that allowance in the case of these projects in the San Joaquin and Sacramento River valleys and not make a similar allowance in this proposed Tuolumne development?

Col. BIDDLE. The reason is this: In considering the land to be irrigated by the rivers you refer to, we simply considered the land that is immediately tributary to those rivers; and in the case of the Tuolumne we considered the land in the Turlock and Modesto irrigation districts as enlarged, so that we did consider the same points. In other words, I do not think in this general statement we had any idea of irrigating a larger portion of land in the Mokelumne Valley than we considered in the Tuolumne Valley.

Mr. RAKER. Mr. Church, has there been an estimate as to the amount of water that could be held back from the source of Tulare Lake, or as to the amount of land to be covered in that country south of the divide?

Mr. CHURCH. I do not know that there has been an estimate made by the proper authorities. Of course the people of the San Joaquin Valley have that problem with them and are looking always forward

to the day when they can conserve all the waters that flow from the mountains east of their valley. So far as the figures of competent authorities are concerned, I do not know that they have any.

Mr. RAKER. In other words, there is no estimate of the amount of water that can be conserved that is now going to waste in Tulare Lake, or you know of no Government figures on the subject?

Mr. CHURCH. I think not.

Mr. FRENCH. Are you familiar with some of the general difficulties that would attach to Lake Tahoe as a possible source of supply? Do we have a statement here touching Lake Tahoe as a possible water source?

Col. BIDDLE. This is what is said in the report concerning Lake Tahoe:

This lake lies in part in California and in part in Nevada. Its outlet, the Truckee River, passes through California into Nevada. The water is extensively used for power and irrigation purposes, especially in the latter State, where it is much needed. The quality is excellent and the storage capacity good. The average supply is about 275,000,000 gallons daily. On account of the use made of these waters elsewhere, especially in Nevada, it is not thought they could be diverted to San Francisco, and the lake is not considered an available source of supply.

Now, I would like to make this further statement: The reason we take the year 2000 in the case of San Francisco—and I do not think eastern cities need take such an advanced date—is on account of the general lack of water in California. Cities situated as San Francisco have to look a long time forward. Here at Washington, for instance, you have the Potomac River, and the chances are that the water situation, so far as Washington is concerned, 50 years hence will be the same as it is to-day. In the case of San Francisco, however, there would be the danger of so many water rights and water-use developments that it might be almost impossible 50 years from now to obtain water rights without great expense and even hardship to agricultural communities. That is the reason we take that advanced date.

The CHAIRMAN. Is there any further statement you desire to make, Col. Biddle?

Col. BIDDLE. I do not think of anything now. I do want Mr. Church to understand my position in regard to the Sacramento and San Joaquin Valleys. I think simply that all the indications are that all of the water that can be economically conserved in the Sacramento Valley will within a reasonable time be put to beneficial use and not that all the water of this system will necessarily be used for irrigation. I believe I can ill share its available water.

The CHAIRMAN. Does the associate engineer desire to make some statement now, or does he coincide with the views already expressed by Col. Biddle?

Col. COSBY. I concur fully in the statement of Col. Biddle. There is only one small point of difference, and that is as to whether the Hetch Hetchy Valley would be more attractive with this reservoir in it than in its present condition. I believe that with the lake it would be even more beautiful than it is in its natural condition.

Col. TAYLOR. The first year I was up there I was inclined to think that it would be more beautiful as a lake, but in the second year I was inclined to think it would be more beautiful as a valley. It will be a beautiful place either way.

The CHAIRMAN. Do you think that the beneficial use that we have been considering ought to enter into it?

Col. TAYLOR. There is not the slightest question in mind but that this should be used as the source of water supply, and not only that, but that it will be used as a water supply in a very short time independently of whether this project is adopted or not. I think that the pressure will be so great to conserve the water up there that it will be used as a storage reservoir. It is by far the best storage reservoir in that section of the country, and water is so valuable up there that they can not afford to let it run to waste. If you deny the use of it to San Francisco, sooner or later the water will be put to other uses. Somebody will be asking for permission to utilize the Hetch Hetchy Valley as a storage reservoir for irrigation purposes. This water will certainly be used for the city of San Francisco or for irrigation purposes.

The CHAIRMAN. What do you think of the equitable distribution made of it under the terms of this bill?

Col. TAYLOR. I do not think that the irrigation people have anything to complain of in this bill.

The CHAIRMAN. You think that they get a square deal?

Col. TAYLOR. Yes, sir; those districts do.

The CHAIRMAN. And they are the only ones that have any prescribed rights?

Col. TAYLOR. Yes, sir.

The CHAIRMAN. Is there anything you would like to suggest, Col. Cosby?

Col. COSBY. I presume the members of the committee fully understand how inaccessible the Hetch Hetchy Valley is?

The CHAIRMAN. We went into that fully yesterday.

Mr. TAYLOR of Colorado. Do you think these roads will make it accessible to a larger number of people?

Col. COSBY. I think it will make it accessible to a greater number of people. At the present time I think that there are practically only two classes of people who use it, people who are unusually wealthy or people who are unusually strong and healthy, and are able to make the trip.

Mr. RAKER. Will it not mean a good deal whether or not regulations are made so that people can go in? In other words, if you make good roads and yet make the regulations so burdensome that only the rich can go in there the situation will not be improved, but if you make these roads public highways so that all the people can have the use of them they will have an opportunity to go in and see these beauties, whereas to-day the conditions are almost prohibitory. Is it not a fact to-day that the conditions are such that only the rich can go into the Yosemite Park, generally speaking?

Col. COSBY. I would not say that, because persons of moderate means can go into the Yosemite National Park. There are camps there that are very reasonable in cost.

Mr. CHURCH. I would like to correct one statement that has been made; there has been some talk here to the effect that only the rich can visit the Hetch Hetchy Valley and the Yosemite Valley. I think it is only the poor man who is fed on sowbelly and corn bread that has the strength to go in there.

Mr. FRENCH. You stated awhile ago that if the Hetch Hetchy Valley is not utilized as a storage basin for the water supply of San Francisco, in all probability, in the near future, it will be utilized as a storage basin of water for some economic use. I want to ask if there is any available water source that San Francisco could use that would not, if it is not used by San Francisco for domestic purposes, be used for irrigation purposes or other economic purposes?

Col. TAYLOR. In my opinion it is only a question of time when all of the water available in California that can be economically used will be used. Now, economical use means one thing to-day and another thing 25 years from now, because 25 years from now the people would be able to pay more for water on account of the increased value of the land that could be irrigated.

Mr. WHITMAN. Is not the same thing true as to the Merced River, which is the next river from the Yosemite Valley, and is it not true, also, that the time will come when people will be demanding that the Yosemite River be converted into a reservoir?

Col. TAYLOR. I think that is stretching it a bit too far. I think that probably a demand may be made for damming that river, but I do not believe it will ever be granted. It may be possible, also, that in the upper waters of the Merced Valley there may be rivers that will be utilized in the future that can not be utilized to-day on account of the expense of construction.

Mr. O'SHAUGHNESSY. There is a road, I understand, to Hog Ranch, within 8 miles of Hetch Hetchy. Have you any idea of what the cost of building that road was?

Col. COSBY. I do not know of any estimate that has been made.

(Thereupon, at 1.15 o'clock, the committee took a recess until 2.30 o'clock p. m.)

AFTER RECESS.

The committee reconvened at 2.40 o'clock p. m.

The CHAIRMAN. We will proceed, gentlemen.

STATEMENT OF HON. PERCY V. LONG, CITY ATTORNEY OF THE CITY AND COUNTY OF SAN FRANCISCO, CAL.

Mr. LONG. Mr. Chairman and gentlemen of the committee, assuming that this subject is new to most of the members of this committee so far as San Francisco's point of view is concerned and the history of her attempts to get water, I have in mind to briefly outline the history of San Francisco's water supply.

As some of you probably know, San Francisco is situated on a peninsula and her earliest water supply was taken from a stream within the limits of the city. That is now a part of the Presidio Military Reservation, the property of the United States. For many years the water was taken from a stream known as Lobos Creek and brought a long distance along the shores of the Golden Gate in a wooden flume through a tunnel in another portion of the reservation known as Black Point, or Fort Mason, and pumped from that point to reservoirs upon the higher levels and distributed to the people of San Francisco. That was along about 1851.

Later, as that supply became less adequate, the Spring Valley Water Co. was organized and proceeded to go down the peninsula outside of the limits of San Francisco a distance of about 25 miles and utilized a natural storage reservoir on what is known as Pilarcitos Creek. Gradually, as the city grew, other storage reservoirs were added until the limit of development in that part of the peninsula was reached, and the city is to-day getting from the west side of the bay—from San Mateo County—about 17,000,000 gallons of water daily. About 20 years ago the Spring Valley Water Co. went to the other side of the bay—what is known as Alameda County—and, discovering a large area of gravel beds, proceeded to draw water from these gravel beds into a diverting dam and then into aqueducts and submarine pipes and brought it into the city. To-day we are getting over half our supply in that way, and the company believes that it can considerably increase that supply. Of course it is a mooted question whether that can be very materially increased, because while they are drawing on that supply they are naturally affecting the water level in that neighborhood, and we believe that repeated drafts over a period of years is going to cause a conflict with the users of the water. We feel that ultimately we must go to the high Sierras.

About 1901 the city engineer of San Francisco was called upon to examine various available sources of water supply in the mountains and make his report to the board of public works, which was a body created under the new charter of 1900. He considered various sources and, following a suggestion made by the Reclamation Service, he expended about \$50,000 in investigating particularly the Hetch Hetchy and the Tuolumne River supply.

THE CHAIRMAN. What year was that?

MR. LONG. That was in 1901—1900 and 1901. The sources as examined at that time were:

First, the Spring Valley waterworks supplies, with 12 separate sources; second, Lake Tahoe; third, the Yuba River; fourth, the Feather River; fifth, the American River; sixth, the Sacramento River; seventh, the Eel River; eighth, Clear Lake; ninth, the San Joaquin River; tenth, the Stanislaus River; eleventh, the Mokelumne River; twelfth, the Tuolumne River; thirteenth, the Bay Shore gravels—in and around San Francisco and Alameda County; and fourteenth, the Bay City Water Co.'s reserve.

The result was that the Tuolumne River, draining 1,501 square miles of the Sierra Mountains, with an annual rainfall of from 20 to 50 inches and a mean annual run-off of 24 inches, or nearly 2,000,000 acre-feet, was selected.

The report goes on to say:

This source presents the following unrivaled advantages:

First. Absolute purity by reason of the uninhabitable character of the entire watershed tributary to the reservoirs and largely within a forest reservation.

Second. Abundance far beyond possible future demands for all purposes.

Third. Largest and most numerous sites for storage.

Fourth. Freedom from complicating "water rights."

Fifth. Power possibilities outside the reservation.

It has the drawback of distance to overcome, requiring the construction of conduits aggregating 142 miles in length. But considering the partial pollution and the rapid rate of pollution to which all other sources may in the future be subjected, particularly near-by sources, the Tuolumne River is far superior to any other.

That report was made in 1901, when James D. Phelan was mayor of San Francisco. The report was approved by the board of public works and adopted, so far as it could be adopted, as the future policy of San Francisco in the matter of Sierra water supply. At that time there was no law of the State of California by which a municipality could make filings for water rights or reservoir rights of way. So Mr. Phelan had posted notice on the 29th of July, 1901, giving notice of his claim to certain water flowing in the Tuolumne River. The notice was posted on the north bank of the Tuolumne River at the outlet of Hetch Hetchy Valley, and the claim was made for 10,000 miner's inches. The purposes were stated:

For irrigation, manufacturing purposes, water power, and domestic use.

The CHAIRMAN. Now, was that a proper appropriation under the laws at that time?

Mr. LONG. Yes, sir.

The CHAIRMAN. At that time?

Mr. LONG. Yes, sir.

The CHAIRMAN. Have you that notice in full which was posted?

Mr. LONG. Yes. It is in a brief which I filed with the Secretary of the Interior three years ago in opposition to his order to show cause.

The CHAIRMAN. Have you a copy?

Mr. LONG. Yes, sir.

The CHAIRMAN. So that you can give it to the stenographer and let it go in the record?

Mr. LONG. Yes, sir.

The CHAIRMAN. How long is it?

Mr. LONG. About a page and a quarter. I can leave it with the reporter.

The CHAIRMAN. I think it would be well unless the committee has some objection.

Mr. LONG. It includes several other papers, the assignment, etc.

Mr. RAKER. Does it include the resolution of the board of supervisors?

Mr. LONG. It includes the transmission to the board.

Mr. SINNOTT. Have you anything to show diligence in filing that notice?

Mr. LONG. I was just going to follow that up.

The CHAIRMAN. Will you give the reporter the page references so he can put all that in the record?

Mr. LONG. Pages 133 to 151, inclusive.

(The matter referred to is as follows:)

FILINGS OF JAMES D. PHELAN FOR RESERVOIR RIGHTS OF WAY.

NOTICE OF APPROPRIATION OF WATER.

Notice is hereby given that James D. Phelan claims the water now flowing in Tuolumne River at the point where this notice is posted, to the extent of 10,000 miner's inches measured under a 4-inch pressure. The point where the notice is posted is described as follows:

On the north bank of the Tuolumne River at the outlet of Hetch Hetchy Valley and being in the NE. $\frac{1}{4}$ of sec. 17, T. 1 N., R. 20 E., M. D. B. and M. This notice is nailed to an 8-inch dia. oak tree above the narrowest part of the gorge; at the base of the tree being an old United States Geological Survey bench mark.

The water is claimed for irrigation, manufacturing purposes, water power, and domestic use, and the place of intended use is in and near the city and county of San Francisco, Cal., and along the line of the proposed conduit.

It is proposed to divert such waters by means of a dam, to allow the same to flow in natural channels, and in canals, tunnels, flumes, wooden and iron or steel pipes to the points of intended use, using such dams and other structures for its recovery from natural channels and its proper control, as may be required.

The size of the canal is to be 10 feet wide on the bottom, 16 feet wide on top, 6½ feet deep on a grade of 4 feet per mile, or of such other dimensions as will give it an equivalent capacity.

The sizes of flumes, pipes, tunnels, and other conduits are to be such as to give them sufficient capacity to carry the amount of water claimed.

JAMES D. PHELAN.

Posted at the request of James D. Phelan on the 29th day of July, 1901.

H. E. GREEN.

Witness to posting:

W. W. COCKINS, Jr.

STATE OF CALIFORNIA,

County of Tuolumne, ss:

W. W. Cockins, jr., and H. E. Green, being each first duly sworn, each for himself and not one for the other, depose and say: That on the 29th day of July, 1901, H. E. Greene posted a full, true, and correct copy of the annexed and foregoing notice of water appropriation on the north bank of the Tuolumne River at the outlet of Hetch Hetchy Valley, and being in the NE. ¼ of sec. 17, T. 1 N., R. 20 E., M. D. B. and M. This notice is nailed to an 8-inch diameter oak tree above the narrowest part of the gorge; at the base of the tree being an old United States Geological Survey bench mark.

H. E. GREEN.

W. W. COCKINS, Jr.

Subscribed and sworn to before me this 6th day of August, 1901.

[SEAL.]

F. P. OTIS,

Notary Public in and for the County of Tuolumne, State of California.

OFFICE OF COUNTY RECORDER, TUOLUMNE COUNTY, CAL.,

Sonora, Cal., August 6, 1901.

I, Richard Inch, county recorder of the county of Tuolumne, State of California, do hereby certify that I have compared the foregoing copy with the record of the original notice of water location recorded in my office on the 6th day of August, 1901, in book 1, volume 10, of claims, at page —, and that the same is a full, true, and correct copy of such original record and of the whole thereof.

Attest my hand and the seal of my office this 6th day of August, A. D. 1901.

[SEAL.]

R. INCH,

County Recorder of Tuolumne County.

NOTICE OF APPROPRIATION OF WATER.

Notice is hereby given that James D. Phelan claims the water now flowing in Eleanor Creek at the point where this notice is posted to the extent of 5,000 miner's inches, measured under a 4-inch pressure. The point where this notice is posted is described as follows:

On the west bank of the Eleanor Creek, about three-quarters of a mile below the outlet of Lake Eleanor, and is in the NW. ¼ of sec. 3, T. 1 N., R. 19 E., M. D. B. and M. This notice is nailed to a pine tree 16 inch dia. 60 feet west of creek.

The water is claimed for irrigation, manufacturing purposes, water power, and domestic use, and the place of intended use is in and near the city and county of San Francisco, Cal., and along the line of the proposed conduit.

It is proposed to divert such waters by means of a dam, to allow the same to flow in natural channels and in canals, tunnels, flumes, wooden and iron or steel pipes to the points of intended use, using such dams and other structures for its recovery from natural channels and its proper control as may be required.

The size of the canal is to be 10 feet wide on the bottom, 16 feet wide on top, 6½ feet deep, on a grade of 4 feet per mile, or of such other dimensions as will give it an equivalent capacity.

The sizes of flumes, pipes, tunnels, and other conduits are to be such as to give them sufficient capacity to carry the amount of water claimed.

JAMES D. PHELAN.

Posted at the request of James D. Phelan on the 29th day of July, 1901.

H. E. GREEN.

Witness to posting:

W. W. COCKINS, Jr.

STATE OF CALIFORNIA, *County of Tuolumne, ss:*

W. W. Cockins, jr., and H. E. Green, being each first duly sworn, each for himself and not one for the other, depose and say: That on the 29th day of July, 1901, H. E. Green posted a full, true, and correct copy of the annexed and foregoing notice of water appropriation on a board nailed to a pine tree 16 inches in diameter, 60 feet west of Eleanor Creek, in the NW. $\frac{1}{4}$ of sec. 3, T. 1 N., R. 19 E., M. D. M.

H. E. GREEN.

W. W. COCKINS, Jr.

Subscribed and sworn to before me this 6th day of August, 1901.

[SEAL.]

F. P. OTIS,

Notary Public in and for the County of Tuolumne, State of California.

OFFICE OF COUNTY RECORDER,

TUOLUMNE COUNTY, CAL.,

Sonora, Cal., August 6, 1901.

I, Richard Inch, county recorder of the county of Tuolumne, State of California, do hereby certify that I have compared the foregoing copy with the record of the original notice of water location recorded in my office on the 6th day of August, 1901, in book 1, volume 10, of Claims, at page —, and that the same is a full, true, and correct copy of such original record and of the whole thereof.

Attest my hand and the seal of my office this 6th day of August, A. D. 1901.

[SEAL.]

R. INCH,

County Recorder of Tuolumne County.

LETTER OF TRANSMISSION.

SAN FRANCISCO, CAL., *October 16, 1901.*

TO THE REGISTER OF THE STOCKTON LAND OFFICE,

Stockton, Cal.

DEAR SIR: At the request of Mr. James D. Phelan, I hand you herewith for filing and to be examined by the General Land Office and submitted to the Secretary of the Interior for his approval:

1. An application of Mr. James D. Phelan for a right of way for a reservoir on Tuolumne River, in Tuolumne County, Cal., in T. 1 N., R. 20 E., and T. 1 N., R. 21 E., M. D. B. and M., consisting of the following maps and papers in duplicate:

Field notes of a survey of a reservoir site on Tuolumne River, Tuolumne County, Cal.; discharge estimates of Tuolumne River at proposed dam site; affidavit of applicant; map of the reservoir site on Tuolumne River.

2. An application by Mr. James D. Phelan for a right of way for a reservoir at Lake Eleanor, Tuolumne County, Cal., in T. 1 N., R. 18 E., and T. 2 N., R. 19 E., M. D. B. and M., consisting of the following maps in duplicate:

Field notes of a survey of Lake Eleanor, Tuolumne County, Cal.; discharge estimates of Eleanor Creek at proposed dam site; affidavit of applicant; map of the Lake Eleanor Reservoir site.

I hand you also for transmission with the above papers a certificate from the secretary of state certifying that the laws of the State of California governing corporations, water rights, and irrigation have been filed in the office of the Department of the Interior, together with the "Notice of appropriation of water," by James D. Phelan, from Tuolumne River, posted on the 29th day of July, 1901, and recorded in the records of Tuolumne County. Also, the "Notice of appropriation of water," by James D. Phelan, posted in Eleanor Creek below Lake Eleanor on the 29th day of July, 1901, and recorded in the records of Tuolumne County.

Yours, truly,

C. E. GRUNSKY.

Application for Tuolumne River reservoir site in the form of a map of the same on which appear the following affidavits:

STATE OF CALIFORNIA,

County of San Francisco, ss:

I, James D. Phelan, do hereby certify that H. E. Green, who subscribed to the accompanying affidavit, is the engineer employed by me; that the survey of the said reservoir, as accurately represented in this map and by the accompanying field notes, was made under my authority; that the said reservoir, as represented on this map and by said field notes, was adopted by me on the 15th day of August, 1901, as the definite location of the said reservoir described as follows:

Commencing at a stake marked "o," from which a black oak 10 inches in diameter bears S 10° W. 26.4 feet distant, said stake being 3 inches square and 3 feet long in stone mound on ledge of rock bearing S 80° 07' E. 9,863.9 feet from true corner of sections 7, 12, 18, 13, on west boundary of T. 1 N., R. 20 E., M. D. B. and M., being the initial point of said survey and the point where the 150-foot contour, or water level, intersects the northwest end of the axis of the proposed dam; thence following the courses and distances as set forth in the accompanying field notes, forming the perimeter of the 150-foot contour or water level of said reservoir to the place of beginning and containing a total area of 1,170.45 acres, was made by him as my engineer and under my authority, commencing on the 26th day of June, 1901, and ending on the 1st day of August, 1901, and that the survey of said reservoir accurately represents a level line which is the proposed water line of said reservoir, and that said survey is accurately represented upon this map and by accompanying field notes, and no lake or lake bed, stream or stream bed is used for said reservoir except as shown on this map, and that the map has been prepared to be filed for the approval of the Secretary of the Interior, in order that I may obtain the benefits of the act of Congress approved February 15, 1901, entitled "An act relating to rights of way through certain parks, reservations, and other public lands." And the right of way for the proposed reservoir is desired for irrigation, manufacturing purposes, water power, and domestic use.

JAMES D. PHELAN.

Subscribed and sworn to before me this 15th day of October, 1901.

[SEAL.]

R. D. McELROY,

*Notary Public in and for the City and County of San Francisco,
State of California.*

STATE OF CALIFORNIA,

County of Los Angeles, ss:

H. E. Green, being duly sworn, says he is the engineer employed by James D. Phelan, that the survey of said James D. Phelan's reservoir described as follows: Commencing at a stake marked "o," from which a black oak 10 inches in diameter bears S. 10° W. 26.4 feet distant; said stake being 3 inches square and 3 feet long in a stone mound on ledge of rock bearing S. 80° 0.7' E., 9,896.3 feet from true corner to sections 7, 12, 18, 13, on west boundary of T. 1 N., R. 20 E., M. D. B. M., being the initial point of said survey, and the point where the 150-foot contour, or water level, intersects the northwest end of the axis of the proposed dam; thence following the courses and distances as set forth in the accompanying field notes forming the perimeter of the 150-foot contour or water level of said reservoir to the place of beginning, and containing a total area of 1,170.45 acres, was made by him as engineer employed by James D. Phelan, and under his authority, commencing on the 26th day of June, 1901, and ending on the 1st day of August, 1901, and that the survey of said reservoir accurately represents a level line which is the proposed water line of the said reservoir, and that said survey is accurately represented upon this map and by the accompanying field notes, and no lake or lake beds, stream or stream bed, is used for the said reservoir except as shown on this map.

H. E. GREEN.

Subscribed and sworn to before me this 4th day of October, 1901.

J. W. KEMP,

Notary Public in and for the County of Los Angeles, State of California.

Application for Lake Eleanor reservoir site in the form of a map of the same on which appear the following affidavits:

STATE OF CALIFORNIA,

County of San Francisco, ss:

I, James D. Phelan, do hereby certify that H. E. Green, who subscribed to the accompanying affidavit, is the engineer employed by me; that the survey of the said reservoir as accurately represented on this map and by the accompanying field notes was made under my authority; that the said reservoir as represented on this map and by said field notes was adopted by me on the 15th day of August, 1901, as the definite location of the said reservoir described as follows: "Commencing at a stake marked 'o,' from which a fir 15 inches in diameter bears N. 40° W. 33 feet distant; a burned pine stump 20 inches in diameter bears N. 31° E. 41 feet distant, and a pine 10 inches in diameter bears S. 65° E. 55 feet distant, said stake being 3 inches square and 3 feet long, set in a rock mound bearing N. 57° 50' E. 1,083 feet distant from quarter section corner common to secs. 3 and 4, T. 1 N., R. 19 E., M. D. B. and M., being the initial point of said survey and the point where the 89-foot contour, or water level, intersects the west end of the axis of the proposed dam; thence following the courses and distances as set forth in the accompanying field notes, forming the perimeter of the 89-foot contour, or water level, of said reservoir, to the place of beginning and containing a total area of 1,159.21 acres, was made by him as my engineer and under my authority, commencing on the 27th day of May, 1901, and ending on the 24th day of June, 1901, and that the survey of said reservoir accurately represents a level line which is the proposed water line of the said reservoir, and that said survey is accurately represented upon this map and by the accompanying field notes, and no lake or lake bed, stream or stream bed, is used for the said reservoir except as shown on this map, and that the map has been prepared to be filed for the approval of the Secretary of the Interior in order that I may obtain the benefits of the act of Congress approved February 15, 1901, entitled "An act relating to rights of way through certain parks, reservations, and other public lands." And the right of way for the proposed reservoir is desired for irrigation, manufacturing purposes, water power, and domestic use.

JAMES D. PHELAN.

Subscribed and sworn to before me this 15th day of October, 1901.

[SEAL.]

R. D. McELROY,

*Notary Public in and for the City and County of San Francisco,
State of California.*

STATE OF CALIFORNIA,

County of Los Angeles, ss:

H. E. Green, being duly sworn, says he is the engineer employed by James D. Phelan, that the survey of said James D. Phelan's reservoir described as follows: Commencing at a stake marked "o," from which a fir 15 inches in diameter bears N. 40° W. 33 feet distant; a burned pine stump 20 inches in diameter bears N. 31° E. 41 feet distant; and a pine 10 inches in diameter bears S. 65° E. 55 feet distant, said stake being 3 inches square and 3 feet long, set in a rock mound bearing N. 57° 50' E. 1,083 feet distant from quarter section corner common to sections 3 and 4, T. 1 N., R. 19 E., M. D. B. and M., being the initial point of said survey and the point where the 89-foot contour, or water level, intersects the west end of the axis of the proposed dam; thence following the courses and distances as set forth in the accompanying field notes forming the perimeter of the 89-foot contour, or water level, of said reservoir, to the place of beginning and containing a total area of 1,159.21 acres, was made as engineer employed by James D. Phelan and under his authority, commencing on the 27th day of May, 1901, and ending on the 24th day of June, 1901, and that the survey of said reservoir accurately represents a level line which is the proposed water line of the said reservoir, and that said survey as accurately represented upon this map and by the accompanying field notes, and no lake or lake bed, stream or stream bed, is used for the said reservoir except as shown on this map.

H. E. GREEN.

Subscribed and sworn to before me this 11th day of October, 1901.

[SEAL.]

J. W. KEMP,

Notary Public in and for the County of Los Angeles, State of California.

Copies of the field notes of the survey of the reservoir site on the Tuolumne River (Hetch Hetchy), and of the field notes of the survey of Lake Eleanor, are on file in the Stockton land office. They have been omitted from this appendix.

Blue prints of copies of the maps were also filed as sheets Nos. 1 and 2.

OFFICE OF JAMES D. PHELAN, 301 PHELAN BUILDING,
San Francisco, Cal., February 20, 1903.

To the honorable the Board of Supervisors of the City and County of San Francisco.

GENTLEMEN: I herewith transmit to you an acknowledged assignment to the city and county of San Francisco all my right, title, and interest in and to reservoir site No. 1, on the Tuolumne River, and of reservoir site No. 2, Lake Eleanor, Tuolumne County, Cal., arising out of my applications, or otherwise, made at the instance of the board of public works in my individual name, but really for the benefit of the city and county of San Francisco.

The reason why application was formerly made was to overcome a legal question as to the power of a municipal corporation to make an original application.

Yours, respectfully,

JAMES D. PHELAN.

The undersigned, James D. Phelan, hereby transfers, assigns, and sets over to the city and county of San Francisco, a municipal corporation, all his right, title, and interest in and to any reservoir rights of way that may be granted or acquired on Tuolumne River and at Lake Eleanor, in Tuolumne County, Cal., under those certain rights-of-way applications subscribed and sworn to by him on the 15th day of October, 1901, and filed in the Stockton land office, as required by the regulations of the General Land Office, and more particularly described as follows:

RESERVOIR SITE No. 1.

Commencing at a stake marked "O," from which a black oak 10 inches in diameter bears S. 10° W. 26.4 feet distant, said stake being 3 inches square and 3 feet long in stone mound on ledge of rock bearing S. 80° 0.7' E. 9,896.3 feet from true corner to secs. 7, 12, 18, 13 on west boundary of township 1 north, range 20 east, Mount Diablo base and meridian, being the initial point of said survey and the point where the 150-foot contour, or water level, intersects the northwest end of the axis of the proposed dam; thence following the courses and distances as set forth in the accompanying field notes, forming the perimeter of 150-foot contour, or water level, of said reservoir to the place of beginning, and containing a total area of 1,170.45 acres; and

RESERVOIR SITE No. 2.

Commencing at a stake marked "O," from which a fir 15 inches in diameter bears N. 40° W. 33 feet distant; a burned pine stump 20 inches in diameter bears N. 31° E. 41 feet distant, and a pine 10 inches in diameter bears S. 65° E. 55 feet distant, said stake being 3 inches square and 3 feet long, and set in a rock mound bearing N. 57° 50' E. 1,083 feet distant from quarter section corner common to secs. 3 and 4, township 1 north, range 19 east, Mount Diablo base and meridian, being the initial point of said survey and the point where the 98-foot contour, or water level, intersects the west end of the axis of the proposed dam; thence following the courses and distances as set forth in the accompanying field notes, forming the perimeter of the 89-foot contour, or water level, of said reservoir to the place of beginning, and containing a total area of 1,159.21 acres.

JAMES D. PHELAN.

STATE OF CALIFORNIA,

City and County of San Francisco, ss:

On this 20th day of February, 1903, before me, R. D. McElroy, a notary public, in and for the city and county of San Francisco, personally appeared James D. Phelan, personally known to me to be the same person whose name is subscribed to and who executed the within instrument, and he acknowledges that he executed the same.

In witness whereof I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

[SEAL.]

R. D. McELROY,
*Notary Public in and for the City and County of San Francisco,
 State of California.*

Mr. LONG. Now, those filings by Mr. Phelan were assigned to the city and county of San Francisco—

The CHAIRMAN (interposing). Let me ask you a question: At that time was there any other filing on this water supply other than the Turlock-Modesto irrigation filing?

Mr. LONG. Yes, many; and had been for many years on these waters.

The CHAIRMAN. In 1901, at the time the city of San Francisco sought to segregate this, was there any other filing other than the Turlock-Modesto?

Mr. LONG. Well, under the laws of the State of California after a filing is made the claimant must commence some reasonable development work within 60 days and must proceed with reasonable diligence to put the water to beneficial use. The law also provides that the time does not run if the filings are made for water which will have to be conducted over rights of way or stored in reservoir sites in Government reserves. When application is made to the Government in such a case, the time consumed in proceedings pending the settlement of the matter by the Government is not counted. The laws of the State of California at that time did not permit a municipality to make filings for water. The law has since been amended and it can now be done. At that time Mr. Phelan made the filings individually and immediately assigned them to the city of San Francisco for whatever they were worth.

Mr. RAKER. An individual could make a filing and then afterwards dispose of it to the municipality and it would be good under the law, even though the city itself was not permitted to make a filing?

Mr. LONG. Yes, sir. I might say that at the time these filings were made Hetch Hetchy Valley was not in the national park. It was not in the national park until 1905, and even then not by express dedication. It has been referred to as being in the Yosemite National Park, but the forest reservation of which it was then a part—or that portion of it in which were Lake Eleanor and Hetch Hetchy—was merged into the Yosemite National Park without expressly naming Hetch Hetchy as a national park. So that at the time these filings were made the reservoir sites were solely within a forest reserve. And I might say that this was not made a part of a forest reserve, or was not withdrawn from entry, until 1890, some 23 years ago, and the greater part of the valleys had been taken up by entrymen and by purchase from the Government. As far back as 1879 the State geologist of California made a report to the State in which he suggested Hetch Hetchy Valley and Lake Eleanor as possible sources of water supply for domestic purposes for the city of San Francisco.

At that time there were certain water rights belonging to certain individuals who were conveying water through miners' ditches. Along about 1883 a number of individuals—and by a strange coincidence my father happened to be one of them; he was a pioneer in that county—formed a corporation for the purpose of supplying water to San Francisco from these very sources and spent a great deal of money in making the ditches, etc. The irrigation districts did not come in there at all until—[to Mr. Griffin:] When were the first filings made?

Mr. GRIFFIN. 1887.

Mr. LONG. They made their filings and commenced development work and have put 1,800 second-feet of the water in this stream to beneficial use. Application was made to the Secretary of the Interior in 1902—I think that is the date, but if I am wrong I will ask leave to correct it later—

Mr. RAKER (interposing). It was 1902.

Mr. LONG. Application was made to the Secretary of the Interior to grant to the city and county of San Francisco a revocable permit to build a dam to impound the waters of the Tuolumne River flowing through the Hetch Hetchy Valley and Lake Eleanor and to bring the same to San Francisco. That application was denied, Secretary Hitchcock basing his denial upon the ground that he was without power to grant it. A rehearing was asked for and that rehearing was denied.

In 1905, representing the city of San Francisco, I took the matter up with the Director of the Reclamation Service and the Chief Forester, and at the direction of President Roosevelt the Secretary of the Interior had some hearings upon the matter but adhered to his former ruling.

In 1906—you all know what happened to San Francisco. It met with a great disaster. Later on in the year 1906 the board of supervisors assumed to abandon whatever rights San Francisco might have, but the abandonment was not made complete, and upon a change of administration the applications for reservoir sites were renewed. July 24, 1907, the then Secretary of the Interior, Mr. Garfield, came to San Francisco and held a full and complete hearing, lasting for several days, and in May, 1908, he issued what is known as the Garfield permit.

Mr. RAKER. Now, right there, Mr. Long. I would like to have that Garfield permit go in the record at this time.

The CHAIRMAN. Unless there is objection it will go in. Is it a very long document?

Mr. LONG. Not so long.

The CHAIRMAN. How many pages is it?

Mr. LONG. About a page and a half.

The CHAIRMAN. There being no objection, it will go in.

(The following is the Garfield permit:)

GARFIELD PERMIT.

On May 11, 1908, the Secretary of the Interior, the Hon. James R. Garfield, authorized the city of San Francisco to use the Hetch Hetchy Valley of the Tuolumne River as a reservoir site in connection with other works on branches of this river. This permit appears in a letter of the above date, from the Secretary to the Commissioner of the General Land Office—the complete letter being printed in the "Proceedings before the Secretary of the Interior in re use of Hetch Hetchy reservoir site in the Yosemite National Park by the city of San Francisco," 1910.

The terms of the permit are as follows:

1. The city of San Francisco practically owns all the patented land in the floor of the Hetch Hetchy reservoir site and sufficient adjacent areas in the Yosemite National Park and the Sierra National Forest to equal the remainder of that reservoir area. The city will surrender to the United States equivalent areas outside of the reservoir sites and within the national park and adjacent reserves in exchange for the remaining land in the reservoir sites, for which authority from Congress will be obtained if necessary.

2. The city and county of San Francisco distinctly understands and agrees that all the rules and regulations for the government of the park, now or hereafter in force, shall be applicable to its holdings within the park, and that, except to the extent that the necessary use of its holding for the exclusive purpose of storing and protecting water for the uses herein specified will be interfered with, the public may have the full enjoyment thereof, under regulations fixed by the Secretary of the Interior.

3. The city and county of San Francisco will develop the Lake Eleanor site to its full capacity before beginning the development of the Hetch Hetchy site, and the development of the latter will be begun only when the needs of the city and county

of San Francisco, and adjacent cities which may join with it in obtaining a common water supply, may require such further development. As the drainage area tributary to Lake Eleanor will not yield, under the conditions herein imposed, sufficient run-off in dry years to replenish the reservoir, a diverting dam and canal from Cherry Creek to Lake Eleanor Reservoir for the conduct of waste flood or extra seasonal waters to said reservoir is essential for the development of the site to its full capacity and will be constructed if permission is given by the Secretary of the Interior.

4. The city and county of San Francisco, and any other cities or city which may, with the approval of the municipal authorities, join with said city and county of San Francisco in obtaining a common water supply, will not interfere in the slightest particular with the right of the Modesto irrigation district and the Turlock irrigation district to use the natural flow of the Tuolumne River and its branches to the full extent of their claims, as follows: Turlock irrigation district, 1,500 second-feet; Modesto irrigation district, 850 second-feet; these districts having, respectively, appropriated the foregoing amounts of water under the laws of the State of California.

To the end that these rights may be fully protected, San Francisco will stipulate not to store, nor cause to be stored, divert, nor cause to be diverted from the Tuolumne River or any of its branches, any of the natural flow of said river when desired for use by said districts for any beneficial purposes, unless this natural flow of the river and tributaries above La Grange Dam be in excess of the actual capacities of the canals of said districts, even when they shall have been brought up to the full volumes named, 1,500 second-feet for the Turlock irrigation district and 850 second-feet for the Modesto irrigation district.

5. The city and county of San Francisco will in no way interfere with the storage of flood waters in sites other than Hetch Hetchy and Lake Eleanor by the Modesto and Turlock irrigation districts, or either of said districts, for use in said districts, and will return to the Tuolumne River above La Grange Dam, for the use of said irrigation districts, all surplus or waste flow of the river which may be used for power.

6. The city of San Francisco will, upon request, sell to said Modesto and Turlock irrigation districts, for the use of any land owner or owners therein, for pumping sub-surface water for drainage or irrigation, any excess of electric power which may be generated, such as may not be used for the water supply herein provided and for the actual municipal purposes of the city and county of San Francisco (which purposes shall not include sale to private persons nor to corporations), at such price as will actually reimburse the said city and county for developing and transmitting the surplus electrical energy thus sold, the price, in case of dispute, to be fixed by the Secretary of the Interior; and no power plant shall be interposed on the line of flow except by the said city and county, except for the purposes and under the limitations above set forth.

7. The city and county of San Francisco will agree that the Secretary of the Interior shall, at his discretion or when called upon by either the city or the districts to do so, direct the apportionment and measurement of the water in accordance with the terms of the preceding clauses of this stipulation.

8. The city and county of San Francisco, when it begins the development of the Hetch Hetchy site, will undertake and vigorously prosecute to completion a dam at least 150 feet high, with a foundation capable of supporting the dam when built to its greatest economic and safe height, and whenever, in the opinion of the engineer in charge of the reservoirs on behalf of said city and county and of the municipalities sharing in this supply, the volume of water on storage in the reservoirs herein applied for is in excess of the seasonal requirements of said municipalities, and that it is safe to do so, that such excess will be liberated at such times and in such amounts as said districts may designate, at a price to said districts not to exceed the proportionate cost of storage and sinking fund chargeable to the volumes thus liberated, the price, in case of dispute, to be fixed by the Secretary of the Interior; provided that no prescriptive or other right shall ever inure or attach to said districts by user or otherwise to the water thus liberated.

9. The city and county of San Francisco will, within two years after the grant by the Secretary of the Interior of the rights hereby applied for, submit the question of said water supply to the vote of its citizens as required by its charter, and within three years thereafter, if such vote be affirmative, will commence the actual construction of the Lake Eleanor Dam and will carry the same to completion with all reasonable diligence, so that said reservoir may be completed within five years after the commencement thereof, unless such times hereinbefore specified shall be extended by the Secretary of the Interior for cause shown by the city, or the construction delayed by litigation; and unless the construction of said reservoir is authorized by a vote of the said city and county and said work is commenced, carried on, and completed within the times herein specified, all rights granted hereunder shall revert to the Government.

Mr. LONG. That is found at pages 4 and 5 of the proceedings before the Secretary of the Interior in re use of Hetch Hetchy Reservoir site in the Yosemite National Park by the city of San Francisco.

In that grant, briefly, Secretary Garfield gave to the city of San Francisco a permit to store the waters of Lake Eleanor and what is known as Cherry Creek, which is outside the reservation, develop them to their highest capacity, and then, when their combined output was insufficient for San Francisco's needs, she was to be permitted to store water in the Hetch Hetchy Valley. At that time 720 acres of Hetch Hetchy was in private ownership. A group of men secured an option on that 720 acres, and, anticipating a bond issue, advanced \$10,000. One of the conditions imposed by the Secretary of the Interior was that San Francisco should obtain all the land around Lake Eleanor and around Hetch Hetchy acquired by private ownership and hold it for itself. He also required the matter of water supply to be submitted to the people for ratification.

In November, 1909, the proposition was submitted to the people of San Francisco as to whether they desired to acquire a source of water supply in the Tuolumne River in accordance with the terms of the Garfield permit, so far as the source was concerned, and with that a proposition was presented to the people, the scheme to vote \$600,000 of municipal bonds for the purpose of acquiring the land and water rights in connection therewith. The proposition was stubbornly fought and carried by a vote of over 5 to 1, and San Francisco immediately proceeded to buy the land held in private ownership.

The CHAIRMAN. You say it was fought; who fought it—water companies?

Mr. LONG. The local water company. The city paid \$174,311.20 for the 720 acres in the Hetch Hetchy Valley and for certain lands held in private ownership which were not on the floor of the valley but which the Secretary of the Interior obligated San Francisco to purchase for camp sites, so that when campers were excluded from the floor of the valley they would still have a camp site.

The CHAIRMAN. How much did they expend?

Mr. LONG. \$174,311.20.

The CHAIRMAN. They hold the title to that now, do they?

Mr. LONG. Absolutely; fee simple title.

Mr. TAYLOR of Colorado. Why did they have to pay so much for it?

Mr. LONG. Why did they have to pay so much for it?

Mr. TAYLOR of Colorado. Yes.

Mr. LONG. It was of value to the city, and a number of private interests were trying to acquire it for the purpose of developing power, and as the Government had made that an indispensable condition we had to pay what we were asked.

The CHAIRMAN. That is, it was a part of the terms of the Government permit that this was to be deeded to the Federal Government?

Mr. LONG. Yes.

The CHAIRMAN. Is there anything in this bill that deals with that phase of it?

Mr. LONG. No.

The CHAIRMAN. What will become of that ground now?

Mr. LONG. It will be used for camp purposes. It is utterly useless to San Francisco, so far as being used in connection with the work there, unless it might be used for construction sites or camp sites; but otherwise it has no value.

Mr. TAYLOR of Colorado. The city does not contemplate running any Coney Island there, does it?

Mr. LONG. No, sir.

Mr. TAYLOR of Colorado. Nothing like that?

Mr. LONG. No, sir. As the chairman well knows, the city secured this land held in private ownership and proceeded to effect a change as best it could, as was evidenced by a resolution which was introduced in the House of Representatives and on which a hearing was held before the Public Lands Committee four years ago. It was reported out favorably at that time, but in the closing days of Congress nothing was done with it.

Later on the city also purchased timber from the Government in the reservoir area of Lake Eleanor to the amount of \$13,128.77; the money is now in the United States Treasury, and the timber has not been cut. Later on it bought all the water rights. Out of the amount of \$600,000 voted in 1909 they bought the land held in private ownership around Lake Eleanor and the water rights claimed by the owners of that land for \$400,000.

In 1909 the Secretary of the Interior, Mr. Ballinger, then on a visit to San Francisco, said that many complaints had been made to him on the part of San Francisco regarding the utilization of the Hetch Hetchy Valley. It was further reported that it was believed in Washington that San Francisco never intended to expend the full amount of money contemplated by this vast scheme, and the Secretary deemed it advisable to again submit the matter to the people in an amount sufficient to provide for this scheme. Acting upon that suggestion, in January, 1910, the proposition was again submitted to the people for the acquisition of this Tuolumne source and also the proposition to authorize the issuance of bonds to the amount of \$45,000,000, and that proposition was carried even more overwhelmingly than before. I think out of 30,000 votes cast there were only some 1,200 against it. So that the people of San Francisco have twice committed themselves to this plan and have authorized the issuance of bonds in the amount of \$45,000,000.

Later on, in 1910, probably within 40 days after the bond election was held, San Francisco was served with an order to show cause before the Secretary of the Interior why the Hetch Hetchy feature of the Garfield permit should not be eliminated, on the ground that Lake Eleanor and certain tributaries were sufficient for San Francisco's water supply. About that time San Francisco was negotiating for the purchase of the rights of the Cherry Creek reservoir site and certain sections of land below that, which control the drop of water—matters that we were not familiar with when we bought the Lake Eleanor site; we supposed we were buying all that was involved, and we found that we were not, so we had to put out \$600,000 more, making \$1,000,000 in all. We have paid the Government in the neighborhood of \$14,000 for timber, and we have put into the Hetch Hetchy Valley \$200,000 exclusive of the cost of investigation which the Government has imposed upon us, which will run into the neighborhood of \$300,000 or \$400,000.

At the time of the hearing before the Secretary of the Interior, Mr. Ballinger, he declared that he wanted this whole matter gone into anew; he wanted all the other available sites examined, and at his request—or at the request of the President of the United States—a board of three Army officers was assigned by the Chief of Engineers of the United States Army to investigate.

When Secretary Ballinger was succeeded by Secretary Fisher, Secretary Fisher declared that he did not want to be bound in any way by anything his predecessors had done, and he wanted this matter investigated just as if it was an absolutely new proposition. Acting upon that advice and upon the advice of Mr. John R. Freeman, one of the ablest engineers in the country, we went into the matter very fully, and our engineers advised us that the proper plan was to develop Hetch Hetchy first, the others to be developed from time to time in connection with Hetch Hetchy, and we asked for a modification of the Garfield permit. Two years were spent in investigations and San Francisco expended in the neighborhood of \$300,000. Last November, at a hearing lasting nearly 10 days, this whole matter was gone into and thrashed out before Secretary Fisher, and just before Secretary Fisher retired from the Cabinet he declared that he thought this subject was of sufficient importance to require action on the part of Congress; that he felt that the act under which we were proceeding—the acts of 1901–1905—were somewhat uncertain in their terms and particularly as to the power of the Secretary of the Interior to impose conditions the performance of which he could supervise and compel. Acting upon that recommendation or suggestion on his part, this bill has been introduced, and you gentlemen have heard the department officials on this subject.

I want to say that San Francisco does not now and never has—

The CHAIRMAN. If you will pardon me. Did Secretary Fisher seem at any time hostile toward this proposition, or was it a proposition too big for him to tackle?

Mr. LONG. No; he never showed any hostility or any particular partiality. He said, for one thing, that it was so near the end of his term that he could not go into the matter as fully as he ought to.

Mr. TAYLOR of Colorado. What was his object in holding all that hearing if he was not going to do anything?

Mr. LONG. Well, for one thing, the Army board did not make its report until February, and he was depending on their report for technical advice on this controversy. He was also doubtful of his power to enforce conditions; that seemed to be the greatest doubt in his mind. Particularly, he doubted somewhat whether the rights of the Turlock and Modesto irrigation districts could be fully protected by such conditions as he might make.

The CHAIRMAN. Did he make a written report to you?

Mr. LONG. Yes, sir.

The CHAIRMAN. How long is it?

Mr. LONG. Ten pages or so.

The CHAIRMAN. Is it all conclusions?

Mr. LONG. No; largely historical.

The CHAIRMAN. I do not think we need any further historical data. Has he any conclusions there?

Mr. LONG. He has none.

The CHAIRMAN. He did not arrive at any?

Mr. RAKER. As I read it, it is practically historical. As the city attorney says, it is a résumé of the facts.

Mr. LONG. It really would not be of much assistance, in my judgment.

The CHAIRMAN. I had not read that document, but I thought that if there was a short terse conclusion in it we might have it in the record.

Mr. LONG. No; I doubt it. There were conclusions, at times, scattered through the hearings, though.

I want to say now that it has never been the purpose of San Francisco and is not now to use this water supply for her own use solely. We have always felt that the interests of all the cities around the bay were identical. There is a large territory on both sides of the bay, running 50 miles, from San Francisco to San Jose, running U shaped, which in the course of a few years must be supplied from the same water system in order to cut down the cost of water and to get the highest degree of efficiency; and in working out that plan four years ago I drafted a bill along the lines of the Massachusetts act, under which Boston and 15 or 20 near-by cities and towns get their water from a common supply. That is known as the "Metropolitan water district act." That is now the law of the State of California, with some modifications, permitting two or more municipalities to join in a water-supply compact. Under that law the city of Oakland has joined with Berkeley, Alameda, and some other towns for the purpose of condemning the local water supply, to be known as the "People's water supply."

As soon as the bonds are authorized, they will proceed to acquire that system. That system will have included in its property Lake Chabot. Mr. Freeman in his plans has worked out a part of this distribution, diverting the water into this reservoir known as Lake Chabot, but the watershed tributary to it amounts to little. The greater part of the supply of those cities is to-day derived from wells sunk in these artesian gravels along the bay shore, the water being pumped into the cities. As soon as they acquire this local supply, they will go ahead with their development, which is needed even worse there than at San Francisco. We are in a very bad condition now, but I think that in October or November the conditions will be much worse. Unless you have been there you can not realize the seriousness of the situation. For several months in the year we get no rainfall, and it is absolutely necessary, in order to insure a supply, to store water during the period when rain does fall, and as a result we require large storage, larger than is required anywhere else except in those sections of the Southwest and some portions of the Northwest that are even more arid than we are, and storage capacity, next to rainfall, is what we most need. In all this discussion this morning there has been much said about rainfall in some sections of the State, but that is not all we need. Unless we have capacity for storage of these rains and melting snows, they will prove very costly. Now, water is very costly in San Francisco. It costs us fully one-third more per thousand gallons in San Francisco than it does in New York City. On the contrary, electric power is much cheaper, and for present needs power does not mean so much to us. In the future, when we are carrying this heavy expense incident to the development of these reservoirs, this cheap power will relieve us somewhat from the burden. When these projects are developed to their highest capacity

and the needs of the various communities around San Francisco are taken care of, it will represent an investment of fully \$100,000,000.

The original plan of Mr. Freeman, looking at it from the standpoint of an eastern engineer, was that if San Francisco went to the expense of constructing these works and storing these waters that any surplus she might have she should be permitted to sell along the line of her system, in order to develop some territory that is near San Francisco requiring irrigation. That has not met with the approval of the city administration, particularly the chief engineer of San Francisco and myself. We felt that the first duty in the matter of irrigation was toward those who are now putting the water to a beneficial use, and for that reason we have agreed that the grant by the Government shall be conditional upon San Francisco observing certain prior rights and prior uses on the part of the irrigation interests, and we have tried to safeguard their interests as near as possible. Our original idea was to provide that the districts as now constituted, comprising some 250,000 acres, should be the only area supplied with water. We have increased that area 43,000 acres, in order to provide for any that are near by which might at present be taken in. We have increased that 43,000 acres over and above what is now comprised in the two districts—the Turlock and Modesto irrigation districts. We have tried to meet the demands of the Federal Government in the matter of regulations, sale of power, building of roads and trails, etc., as far as they could be met, and, in fact, we have met every demand that has been made by the Federal Government.

The bill has been framed in conjunction with those who were in the departments, whose duties called upon them to advise the various departments as to what should go in measures of this sort in order that the rights of the Government might be protected. We feel that we have done all that could be reasonably asked of us. We feel that you gentlemen have heard these department officials and individuals who have made this subject a matter of special investigation, and we do not believe there is anything we could add to what they have said. Both the city engineer and myself are here to answer any questions that may be asked by members of the committee and to give you the benefit of whatever information that we might possess that you may think of value. I do not know that I can add anything further to this rather sketchy statement I have made.

Of course, with us, as in all municipalities that do not own their water system, there has been for a great many years a controversy between the local water company and the city. That controversy has now been drawn down to an agreement by which the city will, on August 10 next, file a complaint of condemnation. Three judges from the State of California will sit in lieu of a jury. The three judges are agreed upon and we will try and settle in that proceeding the question of the amount that San Francisco shall pay to the Spring Valley Water Co. for the purchase of its system. The reason that we have not been able to file that complaint earlier is this: Under the laws of the State of California in eminent domain, condemnation proceedings must be taken in the county wherein the particular property is situated. The property of the Spring Valley Water Co. is situated in five different counties.

That would mean an interminable proceeding, and there was no way by which jurisdiction could be brought down to one court, not even by stipulation. So a bill was prepared and introduced in the

California Legislature, passed at this last session, and will go into effect about the 10th or 15th of August, which will overcome the difficulty. Under the provisions of our constitution no law goes into effect until 90 days after the adjournment of the legislature, and the legislature adjourned, I think, on the 10th or 15th of May. As soon as the 90 days have expired the complaint will be filed and the case will be expedited as much as possible. We hope by the 1st of January to have the prices settled and the bonds voted by the city, and the matter settled amicably; \$50,000 is set aside for the expense of litigation on the part of the city.

Mr. SINNOTT. On page 2 of this bill reference is made to "such other municipalities or districts." How comprehensive is that term "districts" within the meaning of the California laws? I do not understand the use of that word "districts."

Mr. LONG. Under the California law that means water districts. The phrasing of the law is such that two or more municipalities may join together to secure a common water supply.

Mr. SINNOTT. That "consent of the city and county of San Francisco" referred to on page 2; is that left to the arbitrary wish of the city of San Francisco?

Mr. LONG. That is in accordance with the laws of the State of California. The requisite number of people within this district can get up their petition and call their election and bring the city into the district if they wish. I might say that the laws of the State of California are very broad in the matter of control of public utilities, and especially in the matter of the control of water, whether publicly owned or privately owned.

Mr. TAYLOR of Colorado. What would be the modus operandi if some of these other cities wanted something and San Francisco did not want them to have it?

Mr. LONG. They would call a meeting of the people in the water district.

Mr. SINNOTT. Would San Francisco have any voice in the operation of that district?

Mr. LONG. Yes.

Mr. TAYLOR of Colorado. Wouldn't San Francisco outvote them 10 to 1?

Mr. LONG. No; I do not think so.

Mr. TAYLOR of Colorado. There is no question of "thinking" about this. These other cities should have a show for their white alley the same as San Francisco, in proportion to their numbers, without having to get whatever they get by the grace of the other city.

Mr. LONG. They have all approved this measure and have joined with San Francisco in it. But there is also such control by the railroad commission of San Francisco, which is the public utilities commission there, as would give them absolute protection. Now, I was going to say that an article of the constitution of the State of California covers largely your question. Section 1 says:

All water now appropriated or that may hereafter be appropriated for sale, rental, or distribution is hereby declared to be of public use and subject to regulation and control of the State in the manner to be prescribed by law.

That is the provision in the State constitution with reference to water and water rights. The constitution also provides for the supervision and regulation of public-service corporations.

Mr. TAYLOR of Colorado. I know that would apply to public-service corporations, but would it apply to municipalities that were furnishing their neighbors with water?

Mr. LONG. Yes, sir; I think it does. The State railroad commission of California has recently declared that they will not permit the city of Los Angeles, which has run an aqueduct line for over 150 miles into the Owens River, to fix arbitrary rates for the sale of water for irrigation purposes along this canal. It was the purpose of the city of Los Angeles to control this water supply from the Owens River and get some of its money back by bringing water to lands which are now unproductive, and it felt that it was in a position to charge what it felt like. But the railroad commission has put its foot down on that and says it will fix the rates, and the city of Los Angeles will charge only such rates as they permit it to charge. It is within the power of the legislature to confer even greater powers upon this public utilities commission. This new feature of a constitutional amendment adopted two years ago is the broadest that I know of in any constitution in this country.

Mr. TAYLOR of Colorado. If legislation hereafter should interfere with the rights of these people, could Congress have any control over that?

Mr. LONG. The rights to the use and distribution of water are rights controlled by the State. Congress can say how we shall use public grants.

Mr. KENT. And exact conditions.

Mr. LONG. And exact conditions as to the use of that grant. If the conditions are not observed, any party aggrieved, including the Government of the United States, can ask to have the grant set aside. But when the grant itself is silent so far as conditions are concerned in the matter of distribution and purveying of water, that is a matter that is controlled by the State and not by the Government, and the Government can not control it and I do not think the Government assumes to control it. Unless it is made a particular condition and basis of a particular grant, the State has the power to fix rates for water used by the city of San Francisco; and so far as the city of San Francisco protecting other municipalities is concerned, that is a matter controlled by State law. Under the declaration of the constitution of the State of California as to the use of water, and the constitutional provision as to the powers that may be conferred upon the railroad commission by the State, the State is absolutely supreme. Let me read this to you. It is interesting because I doubt if there is any constitution in this country using such broad language:

The railroad commission shall have and exercise such powers and jurisdiction to supervise and regulate public utilities within the State of California, and to fix rates to be charged for commodities furnished or services rendered by public utilities corporations as shall be conferred upon it by the legislature; and the right of the legislature to confer powers upon the railroad commission respecting public utilities is hereby declared to be plenary and to be unlimited by any provision of this constitution.

They can almost change the scheme of State government by putting it in the hands of the railroad commission in the legislature felt so inclined.

Mr. TAYLOR of Colorado. You say that the other cities are in favor of this?

Mr. LONG. Yes; they have joined in it.

Mr. TAYLOR of Colorado. They are represented here, are they?

Mr. LONG. Congressman Knowland speaks for them, but in the hearing before Secretary Fisher the city of Oakland was represented by the assistant city attorney, and at that time they presented the approval of every city around the bay, from the city of Richmond clear down to San Jose, and up the west side of the peninsula to San Francisco. They all feel that this project as outlined now by San Francisco is so vast and is going to cost so much money that none of them can afford it. Now, in order to assist them with the financial burden we are willing to do it, and then as their means permit they are going to join us. And we want them to join us, if for no other reasons than for reasons of economy.

Mr. JOHNSON. Is it proposed to construct your system of sufficient capacity to do this from the first instance?

Mr. LONG. It is our purpose to construct our system at first, our pipe line, to bring in 220,000,000 gallons a day, because there will be no need for the full 400,000,000 gallons a day for a great many years, and the investment required for that pipe line would be so great that it would be unwise to put it in now. Our plans now call for one pipe line with 220,000,000 gallons capacity per day.

Mr. JOHNSON. Would that be sufficient to supply these other cities?

Mr. LONG. It will, for probably 40 years.

Mr. SINNOTT. Are these other cities satisfied with the terms of this bill?

Mr. LONG. I think so.

Mr. SINNOTT. Have they expressed themselves as satisfied with it?

Mr. LONG. On the original bill they did. Of course we have made some changes in it since that time. The only changes, practically, have been the imposition of conditions regarding the use of water for irrigation, and the conditions imposed by the Government. But the first section of the bill has their approval.

Mr. BROWN. I would like to have you tell me how much of the \$174,000 which you spent buying sites was spent for sites in the valley and how much for acreage elsewhere.

Mr. LONG. I think \$81,000 was spent in the valley proper.

Mr. BROWN. That was 720 acres for \$81,000?

Mr. LONG. Yes, sir; \$81,306.18; and for the purchase of exchange lands, \$92,457.02.

Mr. BROWN. How many acres of exchange lands did you get? I am trying to get at the value of the land in that part of the world.

Mr. LONG. Well, we paid \$92,457.02 for the exchange lands—

Mr. TAYLOR of Colorado (interposing). I think they bought them all at hold-up prices.

Mr. LONG. We had to take lands that were held in private ownership.

Mr. BROWN. All lands under private ownership?

Mr. LONG. Yes, sir.

Mr. TAYLOR of Colorado. Did you try to condemn any of them under the law of eminent domain?

Mr. LONG. There is a question whether you can condemn lands in national parks. I brought a suit for condemnation for some land around Lake Ellen and Cherry Creek, but the matter was settled before the case ever came to trial. The exigencies of the case required prompt action; at least those having the policy end of the

city government thought so. There were other people striving to get these particular lands, as we believed, for the purpose of heading the city off.

Mr. BROWN. How many acres of camp sites did you buy?

Mr. LONG. I have that in this brief, but I can't find it now. There is one site known as the Till Till Valley, up above the Hetch Hetchy Valley, which is of no earthly use to San Francisco; and then there is one on the edge of the valley, commonly known as the Hog Ranch, or Portulacca—640 acres out of the valley, including Portulacca and Till Til Valley.

Mr. BROWN. You paid \$400,000 in the Lake Eleanor district. How much of it for water rights?

Mr. LONG. On the map back there [indicating], those small squares colored green are the properties purchased by the city. Now, some of them had the drop on us for the use of power. In fact, the drop was on us every way we turned.

Mr. BROWN. Did private persons own everything you wanted there?

Mr. LONG. They owned all but a few of the dam sites. At Lake Eleanor the Government owns probably half of them and the other half is in the ownership of San Francisco. That is a very expensive dam to construct. It is probably 1,500 feet long, whereas the Hetch Hetchy Valley narrows to about 50 feet wide.

Mr. BROWN. Then you hope to provide one half of the Eleanor site for \$400,000, and you want the Government to provide the other half for \$100,000?

Mr. LONG. Well, we are going to take largely off of the hands of the Government the maintenance of these parks in here [indicating on map].

Mr. BROWN. Now, Cherry Creek; you paid \$600,000 for that. How much of that do you own?

Mr. LONG. We own practically all of Cherry Creek. All of Cherry is outside the National Park. That is the 114 square miles referred to there.

Mr. BROWN. That gives us as a working basis—assuming that you paid the market rates for lands—\$1,000,000 for Lake Eleanor and Cherry Creek.

Mr. LONG. I think the owners of the property around Lake Eleanor and Cherry Creek got \$1,000,000 from the city for something that cost them very little in excess of \$100,000. But there are some features of that which it is not necessary to discuss.

The CHAIRMAN. If I might ask a few questions there—how long have you been city attorney?

Mr. LONG. I succeeded Mr. Lane in 1904, served in 1904 and 1905; then was out in 1906 and 1907, and served from January, 1908, to the present time.

The CHAIRMAN. And this water problem has been before the city a great deal of the time?

Mr. LONG. A great deal of the time, yes.

The CHAIRMAN. Do you anticipate any great trouble with the water company on this question?

Mr. LONG. No; I do not. We have in San Francisco a water committee which was appointed to negotiate with the Spring Valley Water Co., which is the local water company, the matter of acquisition by the city of the property of that company. That committee consists

of the mayor, two supervisors (Supervisor Vogelsang, chairman of the committee on public utilities, which has all of these matters in hand; Supervisor Jennings, chairman of the finance committee of the board of supervisors); Mr. Matthew I. Sullivan, one of the prominent attorneys in San Francisco, and myself as city attorney. We have been holding conferences with the Spring Valley executive committee of the board of directors, and are gradually getting down to a basis of settlement.

Just before I came on to Washington, Mr. Bourn, president of the company, one afternoon at a conference where we were settling a lot of details, stated in my presence in answer to the question whether the Spring Valley Water Co. would make any opposition to the acquisition by San Francisco of the Tuolumne water supply in Hetch Hetchy Valley: "No, we are through. We will not place a single obstacle in its way." Previous to that time Mr. Bourn appeared before the water-rates committee on the board of supervisors on the 19th of May of this year and made a statement—I was not present, but it was reported to me by those present, and it is here in the record. He was under oath at time, and the this is what he said: "If I had it in my power to give you the Hetch Hetchy to-morrow, I would give it to you. If I have it in my power, the Spring Valley Water Co. will not make any objection. We have done all we have said we would do." We have nothing to fear from the Spring Valley Water Co., for they are not going to have this record brought against them.

The CHAIRMAN. Do you feel that the settlement by the irrigation people and the city is an equitable one?

Mr. LONG. I do.

The CHAIRMAN. Does every member of the California delegation agree with this bill?

Mr. LONG. I do not know. It is not easy to get the California delegation together. I have heard no objection to it on the part of anyone. Mr. Church at the outset expressed an opinion, which I understand he adheres to now, as a matter of principle, that we should not go down into that country.

Mr. CHURCH. That is my idea, yes; but we are not making a strong opposition.

Mr. LONG. But under this arrangement by which we guarantee 300,000 acres to be included in the Turlock-Modesto irrigation districts as they may be extended, he feels that we have safeguarded them as far as they can be safeguarded, do you not, Mr. Church?

Mr. CHURCH. Well, I would not like to answer that question directly.

Mr. LONG. I understood that was your position.

Mr. CHURCH. I will not say it is not my position.

Mr. LONG. Well, I feel that we have made it possible for them to get an even more uniform flow than they have now.

The CHAIRMAN. Is there any friction between any of the local cities within the county of San Francisco?

Mr. LONG. No.

The CHAIRMAN. They are all favorable to the bill?

Mr. LONG. Yes.

The CHAIRMAN. Has it been submitted to Congressman Knowland?

Mr. LONG. Yes; I think Mr. Knowland has read the bill. I came to San Francisco from Alameda County, and was one of Mr. Knowland's constituents, and I know conditions very well on that side of the bay.

The CHAIRMAN. What is the total amount that has been expended by San Francisco in trying to secure this water system?

Mr. LONG. About \$1,700,000.

The CHAIRMAN. The opposition in the past has been, first, the Spring Valley Water Co.; second, the conflict with the irrigation people; and, third, the people that think the park should not be molested?

Mr. LONG. Yes, sir.

The CHAIRMAN. Has there been any opposition from other sources?

Mr. LONG. I would not call it opposition. There have been statements made by people who wanted to sell us their water rights.

The CHAIRMAN. People owning a rival supply?

Mr. LONG. Yes. And the only violent one has been the Blue Lakes and Mokelumne, represented by a man by the name of Sullivan in San Francisco.

The CHAIRMAN. There have been some things said here, and I think the committee has thought a good deal about it—I have thought a good deal about it myself—as to whether or not there is another supply which would furnish water adequate in quantity and sufficient in quality to supply San Francisco, which would not interfere with any irrigation project. Is there such a supply available?

Mr. LONG. That is a technical matter, but I doubt very much whether there are any such supplies. I will tell you why. Our supply of water in California, even in San Francisco County, where they receive some rainfall, is constantly decreasing. Now, near San Francisco, tributary to San Francisco, is the Santa Clara Valley, which is probably as rich a valley as there is in the world. That country is watered largely by streams of water that sink into gravel and flow down underneath the floor of that valley. Ordinarily they do not have to irrigate, but we have had two years of extremely light rainfall in California, and they have been sinking their wells deeper and deeper, and it is a problem this year whether they are going to be able to save their trees.

Now, there is tributary to that valley a stream known as Coyote Creek, which has a very heavy flow, and a local company, the Bay Cities Water Co., sought to dam this flow above the valley and impound what they claimed to be the flood waters. They were enjoined by the courts and appealed to the Supreme Court of the State of California, and the supreme court upheld the lower court. Now they are putting down wells on every farm in the valley, and the power companies are doing a tremendous business selling power for pumping purposes. They have found that they can not depend on the rainfall, and I think that all the cities in the neighborhood of San Francisco within the next 20 years will be dependent on outside water for their domestic supply or for irrigation purposes. Of course I am not an expert on that subject, and that is simply my impression as an individual. I would not want to be regarded as attempting to influence you on that subject at all. I am merely giving my opinion as a matter of individual judgment.

The CHAIRMAN. You do feel, then, that you will have no friction with the local water company?

Mr. LONG. Yes; I think that matter will soon be settled up.

The CHAIRMAN. And you think that under the terms of this bill you have divided the water equitably with the irrigation people?

Mr. LONG. Yes, sir.

The CHAIRMAN. Then, as to the proposition of these people that the park should not be interfered with, I presume it is the contention of you people here that you expect to do enough for the park in the way of roads and trails to replace that?

Mr. LONG. Yes, sir.

The CHAIRMAN. Then if it developed, as has been indicated in the hearings, that there were claims other than the Modesto and Turlock irrigation districts, it would be largely a question of whether they had valid rights?

Mr. LONG. Yes, sir.

The CHAIRMAN. Are you people ready to try out the question of whether they have or have not the valid rights?

Mr. LONG. I would be almost willing to take the statement of Mr. Dennett as to what the rights are.

The CHAIRMAN. Now, you get your water there now from the gravel beds, a great deal of it, over across the bay?

Mr. LONG. Yes.

The CHAIRMAN. Are those gravel beds owned by the city or by the Spring Valley Water Co.?

Mr. LONG. By the Spring Valley Water Co.

The CHAIRMAN. How many wells have they in those gravel beds, do you remember?

Mr. LONG. They have at Pleasanton, I think, something like 100, but they have no wells in the gravel beds where they are now getting water. They have gone down 7 or 8 feet into the ground and run galleries, and the water percolates into these galleries. They contemplate building a dam in what is known as the Calaveras Valley, above these valleys, and when they complete that dam and store these waters up there the gravels are not going to give out so much. It is going to be a problem, because there is a delta in that section running from Sunol down there [indicating on map], which is very productive, extremely fertile, but they irrigate from wells, and it is only going to be a question of comparatively few years when there is going to be a conflict between them and the water company.

The CHAIRMAN. What is the amount of the water supply for San Francisco now?

Mr. LONG. Forty million gallons daily; but there is about one-third of the city that is not getting any water at all.

The CHAIRMAN. How many gallons were used last year at this time?

Mr. LONG. The average was thirty-seven to forty million. The big delivery there one day was forty-nine million, and it has run a couple of other days forty-two million.

The CHAIRMAN. The object of my question was to find out how many gallons there were there this year and how many gallons there were last year at this time.

Mr. LONG. I would prefer to have the city engineer answer that.

Mr. O'SHAUGHNESSY. The increase over the corresponding period the year before has been about one and a half million gallons every year.

I think this year it will be forty-two and a half million. But the supply is entirely inadequate. There is possibly one-third of the city without water. They have to haul water in barrels and wagons, and the situation there in some parts of the city is deplorable.

The CHAIRMAN. You say at this time you are using 40,000,000 gallons a day?

Mr. O'SHAUGHNESSY. Forty-two million gallons.

The CHAIRMAN. And how much were you using last year at this time?

Mr. O'SHAUGHNESSY. An average of one and a half million less, forty and a half million.

The CHAIRMAN. Then you had less water last year than you have now?

Mr. LONG. Let me explain. The Spring Valley Water Co. has three storage reservoirs for the city of San Francisco—Crystal Springs, San Andreas, and Upper Crystal Springs. It has always been their policy to hold a three years' supply of water in those reservoirs, because three successive dry years have not been unknown. We have now been drawing upon those reservoirs. The water company has a pipe line from the gravel beds to the city, a pipe line that comes under the bay and has a capacity of twenty-one and a half million gallons. Within the last six months they have put on what they call a "booster" pump, which forces water through the pipe at a greater head and puts the pipe to considerable strain. Now, in order to meet our demands they have been drawing on these reservoirs, and one of them, that at San Andreas, is almost empty. Crystal Springs, which will hold a tremendous amount of water, is 30 feet lower than it was ever known to be before. We have been drawing heavily on these reserves, and if we should have a dry year next year the reserves are all gone. After the fire of 1906, when San Francisco was destroyed through the breaking of the pipes which were placed in a bad section of the city and against the advice of the chief engineer of the Spring Valley Water Co., San Francisco bonded itself for nearly \$6,000,000 to build a high-pressure auxiliary water system for the purpose of putting out fires, and they have to-day in operation about 72 miles of pipe.

They have one pumping station in operation and one under construction at Fort Mason to pump water from the bay—salt water for fire protection—and also a reservoir at an elevation of 600 feet. Now, we have gone to that expense, \$6,000,000, and laid 72 miles of pipe in order to protect ourselves against fire; but there is no way by which we can protect ourselves, except to provide for three successive dry years, in the matter of a domestic supply, and that is what we are trying to do here. The gravels are giving up less and less water, and unless we have a very heavy rainfall this winter we are facing a very grave situation now. The city engineer, under the direction of the board of supervisors, has just completed plans to tide us over until we can get an increased supply.

The CHAIRMAN. Do you know what the supply is this year, the amount of water you are getting now? Not from your reservoirs, but the amount that is flowing into your reservoirs?

Mr. LONG. There isn't any flowing in there now.

The CHAIRMAN. What is the supply you are getting now; what are you drawing on?

Mr. LONG. We get about 21,000,000 gallons a day from the gravel beds.

The CHAIRMAN. Now, then, last year at this time how many more gallons were you getting from the gravel beds? I am asking the question to ascertain whether or not your supply from the gravel beds is increasing or decreasing.

Mr. LONG. We are using the full supply of the pipe. Mr. Shau-nessy can answer those questions better than I can. Those are technical questions that I am not familiar with.

Mr. GRAHAM. Is it intended that the water company will reserve or have any rights in the property after the system is made?

Mr. LONG. No; with the exception of certain lands they have in San Francisco which are not included in the list. They have no reservation of water rights.

Mr. GRAHAM. Will anyone, any individual, have any property right in it?

Mr. LONG. No.

Mr. GRAHAM. It will be wholly municipal?

Mr. LONG. Yes; wholly municipal. I might add that we have a provision in our charter that there can be no lease or sale of public utilities or granting of franchises without first submitting the proposition to the people. I will read you that provision in our charter:

Every ordinance or other measure involving the lease or sale of any public utility or the granting of a new franchise for the operation of any public utility whose franchise has expired, or is about to expire, must be referred and submitted to the vote of the electors of the city and county at the election next ensuing, not less than 60 days after the adoption of such ordinance, and shall not go into effect until ratified by a majority of the voters voting thereon.

I call that to your attention so that you can understand that even the legislative body of the city could do nothing with any of these properties.

Mr. GRAHAM. How do you expect Congress to go ahead and take action in this matter, in the premises, until you have completed your arrangement with the Spring Valley Water Co.? What can Congress do in the premises until the municipalities have control of the water system?

Mr. LONG. I do not think I quite understand you.

Mr. GRAHAM. It is pretty clear from the sentiment expressed around the table here that if you get this system it is for the use of the city and to be municipally owned. Now if Congress takes action before it is municipally owned, wouldn't the situation be embarrassing? In other words, can you complete the negotiations with the Spring Valley Water Co. before Congress acts?

Mr. LONG. I can't quite see the connection.

Mr. FRENCH. The city would go right ahead with condemnation proceedings even if the Spring Valley Water Co. should refuse to sell.

Mr. LONG. Yes. As I explained before Mr. Graham came in, under our laws condemnation proceedings would have to be brought in five counties, but the legislature amended that at the last session, and as soon as the new law goes into effect, which will be in a few weeks, we can go ahead in one action.

Mr. SINNOTT. What has been the policy of the city in the past, in the years of plenty of water, as to permitting the use of the city water for irrigation purposes, other than lawns, for garden truck farming within the city?

Mr. LONG. The city has never had any control over it. That matter has always been in charge of the local water company.

Mr. SINNOTT. What is going to be the policy of the city under this act?

Mr. LONG. Well, after the needs of the irrigationists are settled, we are going to permit as full utilization of the water as possible. Just what the policy will be I could not say.

Mr. TAYLOR of Colorado. Those that now get water from the Spring Valley Water Co. will have to get water from the city hereafter.

Mr. LONG. Yes.

Mr. KENT. Don't the truck farmers get most of their water from wells?

Mr. LONG. Yes. We have stated in there "for domestic purposes" only.

Mr. SINNOTT. That embraces only a limited amount of sales for gardening purposes?

Mr. LONG. It is only a question of a few years till what little truck farming there is in the city will have to get out. There is one source at Merced Lake that has five or six million gallons a day for 30 days, but we are going to buy that system. There are about 2,000 acres now occupied by truck farms that will be used for building sites.

Mr. TAYLOR of Colorado. I wish you would tell me what section 6 means.

Mr. LONG. Section 6 means that San Francisco can not turn over their rights to any private company either by sale or lease.

Mr. TAYLOR of Colorado. It says [reading]:

That the city and county of San Francisco is prohibited from ever selling or letting to any corporation or individual, except a municipality or a municipal water district or irrigation district, the right for such corporation or individual to sell or sublet the water sold or given to it or him by the said city and county.

Mr. LONG. Which means that we must operate this as a municipal water system.

Mr. TAYLOR of Colorado. Except that you may sell it to some other municipality or some other water district.

Mr. LONG. Yes, sir.

Mr. TAYLOR of Colorado. You may sublet it and sell it then to an irrigation district entirely different from the irrigation district mentioned in the bill. Why not put in a provision that the city of San Francisco and these other cities shall hold this in perpetuity? If the city wants to allow water to go then, they can do that.

Mr. LONG. We are not prohibited from doing it here, except we are limited to selling it to public-owned systems.

Mr. GRAHAM. Let us see if we can not read it without the qualifying clause [reading]:

That the city and county of San Francisco is prohibited from ever selling or letting * * * the right to sell or sublet the water sold or given to it—

The right for that corporation or individual to sell or sublet the water. Which means, I take it, that if some one gets water from the city he shall not sell that water to some one else, or sublet the use of it, but he must deal directly with the city for the water that he gets.

The CHAIRMAN. That seems to be a very wise provision to keep them from selling it. You will undoubtedly want to sell it to those adjoining cities.

Mr. LONG. Oh, yes.

Mr. GRAHAM. Coming back to the question, "except a municipality or a municipal water district," that is meant of course to take in Oakland and Alameda and the irrigation projects and other things around there?

Mr. LONG. Yes. For instance, there are some towns in the irrigation district, very prosperous cities, that we have agreed to give water to for domestic purposes and things of that sort. That was not put in by me; that was the department's idea.

Mr. TAYLOR of Colorado. My thought was that while we of course do not impugn the good motive or anything of that kind, it is our duty to legislate so as to prevent the possibility of anything improper being done. This bill involves a plan that is probably worth \$100,000,000, and we ought to have the language so that it would be incapable of any misconstruction or abuse. Now, this says here "or irrigation district."

Mr. LONG. On page 2, line 5, of the granting clause of the act it says, "for conveying water for domestic purposes and uses to the city and county of San Francisco," and so on. That is the granting clause.

Mr. RAKER. You would not take it that the granting clause is so drawn that it would not permit these other towns to use it for irrigation of their lawns and gardens, outside of the mere fact of domestic use?

Mr. LONG. That is not irrigation as I understand it. Domestic use will permit a reasonable amount of water to be used for garden purposes. But, for instance, they could not project an irrigation district just outside of San Francisco and we sell them that water for irrigation purposes, because we are to use it for domestic purposes.

Mr. TAYLOR of Colorado. But section 6 allows you to sell it to an irrigation district—line 20.

Mr. LONG. I think that is qualified by the grant to San Francisco, "for domestic uses and purposes."

Mr. NEEDHAM. The purpose of that section is to prevent the city from renting this water to any private corporation.

The CHAIRMAN. As far as that is concerned, I think it is a very wise provision, but now the Modesto-Turlock irrigation district raise a question there that might be worthy of consideration. If they have the general right to sell to irrigation districts they have the right to prescribe their rights, whatever they may be, under this act.

Mr. LONG. We are not given that right. We are given rights of a certain character, which are enumerated here on page 2—

for conveying water for domestic purposes and uses to the city and county of San Francisco and such other municipalities or districts.

Those are the granting words of the act and the limit of them.

Mr. TAYLOR of Colorado. As far as that is concerned, you want to make the fullest use of the water possible.

Mr. LONG. That would be a matter of future arrangement with the irrigators. If there is any water for irrigation purposes we want the irrigation districts to get it. That is our purpose. We have agreed in the conditions that they shall have it.

Mr. TAYLOR of Colorado. You are giving two irrigation districts the preference rights.

Mr. LONG. They have the rights now under the laws of the State of California, and we recognize those rights.

Mr. SINNOTT. Do you deem that there are any restrictions upon the use of this water after it is sold to the irrigation district, by the provisions of section 6? Is there any restriction at all upon the irrigation districts or the other municipalities as to their use of that water?

Mr. LONG. No; except by the granting words on page 2.

Mr. TAYLOR of Colorado. Now, supposing you sold all the water you had to Alameda, is there anything to prevent Alameda from buying it for its use and using it as they please, or the same thing with any irrigation district, without any restrictions or regulations that would otherwise be applicable to San Francisco?

Mr. LONG. I do not know what Alameda could do with it.

Mr. TAYLOR of Colorado. I do not know either. The supposition is of course very remote.

Mr. LONG. Of course one can work out suppositions in almost any direction. We must take into consideration the practical things, the configuration of the country, and what the opportunities are. As a matter of fact, there are no irrigation districts that would be created around the Bay of San Francisco.

Mr. RAKER. In that connection, Mr. Long, by the provisions of this bill are the cities along the right of way restricted from participating in this if they so desire?

Mr. LONG. No.

Mr. RAKER. There is no doubt but what they can if they comply with the law and pay their necessary pro rata?

Mr. LONG. A great deal depends upon the engineering features and other considerations that I am not competent to pass upon.

Mr. RAKER. Is there anything to prevent them from having an opportunity to use the water, providing they complied with the law and were willing to pay the extra cost of tapping the line and conveying the water to the land?

Mr. LONG. No; there is nothing in the way of that.

Mr. RAKER. Now, we were speaking of this provision a while ago in section 6. This provision would permit the city and county of San Francisco to sell water rights to corporations outside of the city and county of San Francisco, would it not?

Mr. NEEDHAM. I think that can be corrected.

Mr. RAKER. I want to get that before the committee in this way, the way it stands now.

Mr. NEEDHAM. The words "city and county of San Francisco" are unnecessary because the grantee is already defined in another section.

Mr. LONG. That section was put in there at the request of the gentlemen from the irrigation district.

Mr. RAKER. There is no restriction about irrigation under this section, is there?

Mr. LONG. Limitation to what extent?

Mr. RAKER. If they get the water they can do as they please with it, as far as section 6 is concerned?

Mr. LONG. There is a limitation on San Francisco.

Mr. RAKER. But as to the municipalities and water districts? There is a limitation upon San Francisco in the method of sale or lease of the water.

Mr. TAYLOR of Colorado. There is no restriction on the persons to whom San Francisco may sell.

Mr. RAKER. There is no limitation upon the municipalities or irrigation districts. When they sell to these districts or public corporations they just dispose of the water as they in their judgment may see fit.

Mr. LONG. Any other municipality that is permitted to take water must use it for domestic purposes or uses. The irrigation district takes water for irrigation purposes, and we have provided for that in the conditions to which we are subjected, by which the Turlock and Modesto districts are protected.

Mr. BROWN. What are you going to do with this 200,000,000 gallons a day, assuming that you get them?

Mr. LONG. I don't understand you.

Mr. BROWN. You estimate 220,000,000 gallons a day in five years, but you will not be able to use more than 20,000,000 a day more than you are using now?

Mr. LONG. Oh, yes. As soon as they are able to create this big district running 50 miles down the peninsula they will need all the water if the growth continues as it is now.

Mr. BROWN. Not purely for domestic purposes.

Mr. LONG. We are in straitened circumstances for water in San Francisco to-day.

Mr. BROWN. I can readily see that you might want to use it for irrigation purposes and I see no objection to using it for those purposes.

Mr. LONG. We feel that we will need all of it. The outlying sections are being brought in touch with the business districts, and the city engineer has just completed plans for a tunnel a mile and a half in length that will bring into the residential district about 20,000 acres not now settled. While lots are being sold in these tracts, there is really no way now to put water on them, and as the city engineer has said, fully one-third of the city to-day has no water.

Mr. BROWN. Do you imagine that you will need this 220,000,000 gallons of water as fast as you can get it?

Mr. LONG. I think so, but that is a matter that I would like to have the city engineer speak upon.

Mr. BROWN. If you do not use it all for domestic purposes, what are you going to do with the rest of it?

Mr. LONG. We can release it along the line to the irrigation districts. We have given them the option to purchase whatever surplus water we have.

Mr. BROWN. So you do not know just what you are going to do with it if you have any left over.

Mr. LONG. Except as we dispose of it to them.

Mr. TAYLOR of Colorado. How much do you estimate the city ought to have now?

Mr. LONG. The city ought to have to-day 75,000,000 gallons.

Mr. SINNOTT. What is the population at present?

Mr. LONG. Four hundred and seventy-five thousand, I think.

Mr. TAYLOR of Colorado. This 75,000,000 gallons you estimate to cover the same territory that you expect the entire work to cover?

Mr. LONG. No, that is for San Francisco alone. We are using 42,000,000 gallons there now.

Mr. BROWN. Can you state how much ought to be supplied for adequate use to-day for such a district as you expect this project to supply when you get it completed?

Mr. LONG. I think I will have to ask the engineer to give that. He has all the details of that matter, and I am simply drawing upon my memory.

Mr. TAYLOR of Colorado. Of course this is entirely an unreasonable assumption, but supposing a merely hypothetical case, supposing the city of San Francisco should sell to some other municipality, some irrigation district, at a very low rate, a large quantity of water; would there be anything to prevent that grantee from speculating in that water and selling it at a very much higher rate to consumers?

Mr. LONG. The municipality is prohibited from speculating in it.

Mr. TAYLOR of Colorado. Yes, but what is to prevent the grantee from selling it at a much higher rate than the city would get for it?

Mr. LONG. The public utilities commission and the State law would prevent that. A case similar to that arose in the city of Pasadena when Pasadena took over the water system.

Mr. TAYLOR of Colorado. We had a severe lesson along this line some time ago, which Judge Graham and some other gentlemen will remember, in connection with a drainage or reclamation project. The Government sold the power to a private corporation at half a cent a kilowatt hour, and then the corporation turned around and sold it again to the Government and to the people of Phoenix, Ariz., for, I believe, 11 cents a kilowatt hour.

Mr. GRAHAM. They began at 20.

Mr. TAYLOR of Colorado. That kind of thing is wrong, and it is the kind of thing we have got to guard against.

Mr. LONG. We have a public utilities corporation that takes care of those things out there.

Mr. TAYLOR of Colorado. There is another thing I want to call attention to right here. Why do you propose such legislation as you have here, in an act of Congress, giving the force of law to a regulation of the Secretary of the Interior? Why do you legalize a regulation of the Secretary of the Interior? In other words, we are a little bit jealous of an executive official's regulation being legislated into law, as an act of Congress.

Mr. LONG. The only reason that suggests itself to me is this, that it should be made elastic; that conditions change.

Mr. TAYLOR of Colorado. Of course, you are giving him the power—

Mr. LONG. We are giving him the power to fix the price.

Mr. TAYLOR of Colorado. I am not willing the Secretary of the Interior should have discretionary power as is provided by regulation 8 of the regulations drafted by the Secretary of the Interior March 1, 1913. That holds it to one regulation of the Secretary of the Interior.

Mr. GRAHAM. One regulation of a certain date.

Mr. TAYLOR of Colorado. Yes; one regulation of a certain date. Why should you tie yourself to one regulation of one date, rather than leave these matters discretionary with the Secretary hereafter?

Mr. LONG. That was the language put in by the Department of the Interior itself. Secretary Lane stated yesterday that he wanted a substitute for this section 6, a new section.

Mr. TAYLOR of Colorado. I would say, generally speaking, I do not like elasticity of that kind. I do not like the idea of treating with equal authority the regulations of an executive official and acts of Congress. We have too much of that sort of thing in Colorado already.

Mr. RAKER. I understand the Secretary has provided or will provide a substitute which will make it elastic and which will not refer to the regulation at all.

Mr. LONG. He stated yesterday he wanted a substitute, a new section; that he will present a substitute for this.

Mr. CHURCH. I have not gotten this section straightened out in my mind. It would appear from this section that the grantee has a right to sell this water, to any municipality, any municipal water district, or any irrigation district, for them to dispose of it as they see fit.

Mr. LONG. No; it is prohibited from selling to any corporation or individual, except—

Mr. CHURCH (interposing). Yes, sir, "except." Then, it has a right to sell to the municipality or to the municipal water district, or irrigation district. Now, it has a right to sell outright to those, and it has a right to sell also to any individual, provided this restriction is placed upon it.

Mr. LONG. The individual can not—

Mr. CHURCH (interposing). Resell the water sold or given to him by the city, State, or county?

Mr. LONG. It is prohibited.

Mr. CHURCH. It is prohibited. It is not prohibited that the grantee shall have the right to sell to the individual, but it is prohibited that the grantee shall have the right to sell to the individual for the individual to again sell?

Mr. LONG. Yes—

Mr. GRAHAM (interposing). Let me see if this reading of it agrees with your view:

The city and county of San Francisco shall have permission to sell to a municipality, or to a municipal water district, or irrigation district and none else, except that it may sell to corporations or individuals, provided they be not given the right to resell or sublet.

Is that the thought you get out of it?

Mr. CHURCH. That is the thought I get out of it, yes. I want to find out if that is the idea that the gentlemen from Modesto have about it.

Mr. FULKERTH. That is the idea. Our idea is not to sell to any other irrigation district except to Turlock-Modesto, or for any other purpose except for domestic use.

The CHAIRMAN. This bill does not indicate that.

Mr. FULKERTH. I know it does not; it is badly worded.

Mr. LONG. That section was suggested by these gentlemen.

Mr. FULKERTH. It is badly worded; we can submit a new and different section.

Mr. CHURCH. If I get the idea it is this, that the city and county of San Francisco may sell this water to any municipality, any municipal water district or irrigation district that it sees fit anywhere, and that those water districts have the further right to resell, and resell, and resell, and that the restriction placed here is upon anyone else, any other municipality, outside of those mentioned; that they also can purchase, but they do not have the right to sell what they purchase.

Mr. LA FOLLETTE. Do you not think it would be proper and right, if you sell water to a municipality, the municipality would have a right to sell it to the individuals in the municipality? That is evidently the intention of this clause, but it might be further supplemented by saying so.

The CHAIRMAN. They should not have the right to sell it to any other individual of any other municipality.

Mr. CHURCH. I wanted to get the meaning of that very clearly in mind.

Mr. FULKERTH. Our idea was that the water should not be sold to any other district except for irrigation purposes; that the water taken away from the San Joaquin Valley should be applied to domestic use.

Mr. CHURCH. According to section 6, if there is a string of irrigation districts between places where they take the water from the dam, under that section, they would have the right to sell to those districts, and those districts would have a right to dispose of the water as they should see fit.

Mr. KENT. Subject to the prior rights of the districts.

Mr. DENNET. The prior rights are protected.

Mr. LONG. I do not think any question can arise.

The CHAIRMAN. I think we can modify these matters after we take up the bill section by section. I doubt the advisability of asking general witnesses very much in reference to the details of the bill. The committee will take up the bill section by section, and both sides of the Turlock-Modesto people being represented on the committee, and San Francisco likewise being represented here, I think we would make greater progress if we would gather general information from these witnesses, and let the members of the committee make changes where they desire. I do not think it is right to say to both the San Francisco and the Turlock-Modesto irrigation people that we ought not to make material changes which will affect the agreement they have made.

Mr. GRAHAM. I suggest it might help the committee somewhat if these gentlemen will give the committee their idea of a reconstructed section 6.

Mr. CHURCH. I think it would be a good idea to have them file some sort of an agreed statement.

Mr. TAYLOR of Colorado. We do not want to leave too much to construction.

Mr. FULKERTH. There is no reason why we should not file such a statement.

Mr. RAKER. I will ask right here, in connection with Judge Fulkert's previous statement, if there is water from the Turlock-Modesto district in the San Joaquin Valley, are the people to have any water they may store here?

Mr. FULKERTH. So far as we are concerned.

Mr. LONG. That is the proposition we are trying to get in the bill.

Mr. RAKER. If there are other irrigation districts formed in the San Joaquin Valley, you would want them to be in a position to get the water?

Mr. FULKERTH. Unquestionably.

Mr. RAKER. This matter has been thoroughly discussed by the committee. The bill is general in terms as to any land in the district

and in the reservation. This is all in my district, and a number of people have written to me in regard to it, and I think it ought to go into the record. Mr. Long, will you give to the committee the names of the reservoirs that are now contemplated by the city, so that the committee may have something definite to consider in regard to places?

Mr. LONG. The Hetch Hetchy Reservoir, Lake Eleanor Reservoir, and the Cherry Creek are the only ones we have. There is another, known as the Poopenaut Valley, a portion of which is now in private ownership. There are some smaller lakes above Lake Eleanor which, it has been suggested by Mr. Freeman, might be dammed up with small dams so that in the future we can preserve those falls that now go into Hetch Hetchy Valley and at certain seasons are practically dry. That development of those smaller lakes will be rather costly and will be postponed to an extremely remote date. But those we have immediately in mind are Hetch Hetchy, Lake Eleanor, Cherry Creek, and Poopenaut Valley.

Mr. RAKER. Now, this means a great deal to the entire State and all the parties involved, and I have some responsibility resting upon me, and so that there can be no question as to the extent of land, I will ask you whether that is practically the extent of land desired to be taken?

Mr. LONG. For immediate development; yes.

Mr. RAKER. What others for further development in the future?

Mr. LONG. I will have to ask you to ask the engineer in regard to that, because I am getting into engineering questions which are beyond my province. He can answer those questions better, and knows the engineering plan better than I do.

Mr. RAKER. The question involved here is one that has been fully thrashed out, and I thought that the city and county of San Francisco ought to have this evidence in there so that they would not come to us later and say, "There was no evidence upon those things," and it might have an effect upon the general status of the bill.

Mr. LONG. That is all right. It is a department I am not sufficiently conversant with to be able to give the specific information you desire.

Mr. RAKER. As to the sanitary rules provided for in the bill, and from your observation of the conditions, are you able to state that it is about as reasonable as it can be made, to secure the largest utility of the valley?

Mr. LONG. I am not expert enough on that subject to say. Mr. Allen Hazen, who has expert knowledge on such subjects, who is consulted by the Government frequently in the matter of the water supply for the District of Columbia, drafted those rules, and the Board of Army Engineers approved them.

Mr. RAKER. Who is Mr. Hazen? Does he live in the District of Columbia?

Mr. LONG. No; he lives in New York. He is a recognized authority on this subject. He said those rules would be sufficient and should be enforced under any conditions. He is frequently consulted by the Government of the United States on such matters. The Army engineers adopted those views. Mr. Graves informed me that those rules are similar to the ones that are generally enforced, anyway.

Mr. RAKER. From your investigation of the matter, taking those rules to be the most up-to-date rules of sanitation, are they such as to prohibit the largest utilization of the park?

Mr. LONG. As a layman I should say—

Mr. RAKER (interposing). From your investigation.

Mr. LONG. I should say they would not prohibit the largest utilization of the park.

Mr. RAKER. As to the rate of cost that will be given. The engineer for the city and county of San Francisco has made a report which has been distributed among the members, with pictures and photographs; also the report of the Board of Army Engineers. I understand the city and county are practically satisfied to carry out those regulations?

Mr. LONG. Oh, yes; quite willing.

Mr. RAKER. I desire to ask you a question about another matter, so that it will avoid complications. The State has some private camp sites. They will retain the title to the land?

Mr. LONG. Yes.

Mr. RAKER. Would they be permitted under the law, supposing there are public highways made into these valleys and about these lakes, to maintain these public roads, could there be maintained scenic places and hotels upon their ground in opposition to the park commission?

Mr. LONG. No. The reason we bought those lands was to provide free camping grounds for those who camp in there and who would be deprived by the submerging of the Hetch Hetchy Valley of the camping facilities in the valley. One or two of them, the Hog Ranch and one or two others, we would probably want as camp sites for construction purposes. When we are through we will be willing to turn those over to the Government.

Mr. RAKER. What I am getting at is this: You know a good many people from the near-by counties go in there. I want the record to show the position of San Francisco in relation to this camp ground, that the camp grounds will not be turned over to private individuals—

Mr. LONG. It could not be done without the consent of the Government. We are willing to transfer these to the Government in exchange for that portion of the valley which it holds.

Mr. RAKER. That will eliminate any controversy that might arise that it would give an opportunity for private parties to go in?

Mr. LONG. Certainly.

Mr. RAKER. Eliminate that entire question?

Mr. LONG. Absolutely.

Mr. TAYLOR of Colorado. Have you that provision in this bill, providing for that conveyance back?

Mr. RAKER. It is my intention to eliminate all possible question in regard to the matter of private holdings.

Mr. LONG. We are perfectly willing to make that exchange.

Mr. RAKER. Can you think of any other possible objections that could be raised by outsiders? I am trying to get them all in order to put the matter fairly and fully before the committee. Do you think of any others?

Mr. LONG. If any possible objections could have been raised, they would have been raised in the last two weeks. Everything in the way of objection that could have been raised would have been presented.

Mr. TAYLOR of Colorado. The people out there are telegraphing here that they have had no notice of this matter; that we are taking snap judgment.

Mr. RAKER. I want to say this, Mr. Sullivan had notice; I telegraphed him six days ago. To every man who has written me I have telegraphed the hearings were going on.

Mr. TAYLOR of Colorado. It has been impossible for notices to reach California in such a short time.

Mr. RAKER. Accounts of the hearings have been in the newspapers of California and have been read by most of the people of the State.

Mr. TAYLOR of Colorado. Have the people of the State had any opportunity to see this bill?

Mr. RAKER. They have seen it in the papers.

The CHAIRMAN. I think it will be admitted that it is a physical impossibility to serve notice on 92,000,000 of people that we are holding hearings on this matter.

Mr. TAYLOR of Colorado. These gentlemen say they have had no notice of the hearings and seen no copy of the new bill.

Mr. RAKER. Who are "these gentlemen?"

Mr. TAYLOR of Colorado. The California Branch Society for Preservation of National Parks. William Frederick Bode. The telegram says:

We earnestly request hearings Hetch Hetchy bill be postponed to regular session. Would be injudicious to rush measure affecting vast national public interests without chance for hearing opposition. We have had no notice of hearings; seen no copy of new bill. Much evidence in preparation for December session.

CALIFORNIA BRANCH SOCIETY FOR
PRESERVATION OF NATIONAL PARKS.
WILLIAM FREDERICK BODE.

That is the telegram I have received.

Mr. LONG. Everything that could be thought of is suggested in the evidence before the Secretary of the Interior.

The CHAIRMAN. Was this gentleman there in person?

Mr. LONG. He was; he has been at every hearing.

Mr. RAKER. Mr. Chairman, in this connection I would like to ask Mr. Long if these people who are making objections now have given their testimony and been heard before the Secretary of the Interior?

Mr. LONG. All except Mr. Sullivan, the proponent of the Blue Lake scheme, and he was given every opportunity to come here and be heard. He submitted his propositions to the Army engineers, and they were given consideration. All the others have been present at the public hearings.

Mr. BROWN. Is this Blue Lake proposition a rival proposition?

Mr. LONG. It is one he has been trying to sell the city, but it has been discarded.

The CHAIRMAN. Is he a real estate man?

Mr. LONG. Yes; he is not a water supply man. There is a long story growing out of his connection with it.

The CHAIRMAN. Do you know where these telegrams came from, these that read all alike? Do you know who sent them, or by whom they were inspired?

Mr. LONG. A man may have his suspicions, but often he may be biased, and I would not care to express an opinion.

The CHAIRMAN. A telegram to a Congressman is getting to be a most unreliable means of the expression of public opinion.

Mr. RAKER. Who are the parties who sent these telegrams?

Mr. LONG. I do not know.

Mr. RAKER. Do you suspicion this man? He has an opposition water claim?

Mr. LONG. He has an opposition water claim.

Mr. RAKER. Do you think he has inspired some of these? We are not on a lobby investigation just now.

Mr. LONG. I would like to be sure of my ground before answering. I do not want to do anybody an injustice. I may reserve my views to myself.

Mr. CHURCH. I want to say just a word, Mr. Chairman, which, I think, might throw a little light on this situation. I have received a dozen telegrams from boards of supervisors, chambers of commerce, and boards of trade in the San Joaquin Valley protesting against this bill, which I am sure are not inspired.

Mr. RAKER. Have not these telegrams been inspired from Washington, and have not telegrams been sent out to these organizations telling them to get busy and send telegrams and petitions and flood the committee with these things?

Mr. CHURCH. Not to my knowledge.

The CHAIRMAN. Who inspired these people in Texas, and these people in Maine, and these people in Illinois, and in New York, to send telegrams here, all worded alike, all asking that this be put over until December, without any reason therefor? They are undoubtedly inspired.

Mr. CHURCH. I want to call your attention to the fact that the San Joaquin Valley is about 200 miles in length and 80 miles in width, and if you do not know it now you will know it soon; it is one of the greatest valleys in the United States to-day.

Mr. LONG. I think if you had the time to go over the proceedings of four years ago and the proceedings before the Secretary of the Interior in this matter you would find almost the same senders of these messages and the same wording.

Mr. BROWN. In regard to the use of the water of the Spring Valley Co., I want to inquire whether it could be utilized for domestic purposes, or can it be used for irrigation purposes?

Mr. FULKERTH. It could not be so used.

Mr. BROWN. I want to be sure about that. I would not like to have this water used for domestic purposes and then have the water of the Spring Valley Co. used for irrigation purposes.

Mr. FULKERTH. It could not be beneficially used for that purpose.

Mr. RAKER. May I ask Judge Fulkertth whether the brief filed by Mr. Hart covers the Turlock-Modesto proposition?

Mr. CHURCH. Mr. W. H. H. Hart.

Mr. RAKER. The e has been a b i e f received.

Mr. FULKERTH. We do not know anything about it. He never represented us.

Mr. LONG. He represents Mr. Sullivan in the Blue Lakes scheme.

Mr. RAKER. Then if the question is raised—because the briefs are being received—as a matter of fact he is not representing the Turlock-Modesto district?

Mr. FULKERTH. He is not and never has.

(Thereupon, at 5.10 o'clock p. m., the committee adjourned, to meet at 10 o'clock to-morrow, Friday, June 27, 1913.)

COMMITTEE ON THE PUBLIC LANDS,
HOUSE OF REPRESENTATIVES,
Friday, June 27, 1913.

The committee this day met, Hon. Scott Ferris (chairman) presiding.

The CHAIRMAN. The committee will come to order. Let the record show that a quorum is present.

STATEMENT OF MR. M. M. O'SHAUGHNESSY.

The CHAIRMAN. State your official position.

Mr. O'SHAUGHNESSY. City engineer, San Francisco.

The CHAIRMAN. And the length of time you have served in that capacity.

Mr. O'SHAUGHNESSY. Ten months.

The CHAIRMAN. Is it your preference to make a statement independent of questions or would you rather have us ask you questions?

Mr. O'SHAUGHNESSY. I would like to make a statement first, briefly, and then I will answer any questions that you may ask.

On the 1st of last September I was appointed city engineer of San Francisco, after the resignation of my predecessor, Mr. Manson. The chief reason why I was appointed was because of my familiarity with water problems. I have completed four or five complete irrigation systems and waterworks in the Hawaiian Islands and California, and I have been very familiar with all the conditions bearing on the water supply in California, having lived there for 28 years.

Perhaps to an easterner there are many questions involved in a California water supply which would make it impossible to form an opinion on the subject unless by actual contact with conditions. In California we are very often subject to a succession of two and sometimes three dry years. For a municipal supply this involves having a reservoir and storage capacity able to tide over such a dry period. In the eastern section of the country, where rains are more normal and abundant, we are not confronted with the same water difficulties that we must solve in California. For this reason it has been a question of grave anxiety for our large cities to anticipate the future needs by providing proper sources. In San Francisco for the past two years there has been a shortage of over 50 per cent of rainfall, and this has resulted, at the present time, in leaving our reservoirs in a very depleted condition, so that the public is very much alarmed at what the outcome is going to be. Personally, as the city official most directly responsible for conditions, it has been a subject of very grave alarm, so much so that for the past three or four months I have been making explorations all over the city, in our narrow peninsula, trying to develop what strata there is that will be capable, in an emergency, of relieving our situation.

At the present time the Spring Valley Water Co. is supplying about 41,500,000 gallons per day. Last year they supplied on an average of 39,124,000 gallons per day, and in 1911, 37,400,000 gallons per day. In addition to that source there is drawn from private wells in various parts of the peninsula about 8,000,000 gallons per day. So that, roughly speaking, the present consumption of the city is now

50,000,000 gallons per day. If water was adequately distributed, I feel safe in saying that the demands at the present time would be 75,000,000 gallons per day. There is no other city in the United States at the present time, of the size of San Francisco, confronted with such a situation; and that, as I say, has been a matter of very grave concern to me.

From a historical standpoint Mr. Long stated the progress and the inception of this so-called Hetch Hetchy source, which was started by a previous city engineer, Mr. Grunsky, in 1901. Mr. Grunsky is a man of very great distinction in the engineering profession. He was called on by the United States Government as one of the engineers to pass on the Panama Canal and was one of the commissioners on that project in Washington for two or three years. Subsequently he was retained by the Interior Department as consulting engineer, so he can safely be called an engineer of quite national celebrity.

He gave a great deal of thought to this subject, and in 1900 and 1901 he was called upon by the municipal authorities to investigate all the sources of supply in California that would be available for a future and greater supply of water for San Francisco. I do not believe that Mr. Grunsky had any prejudices for or against any particular source. He wanted to get what he thought was the best and most available water, and after spending a year and a half in such an investigation, in which he covered possibly 10 separate projects, he selected this Hetch Hetchy project as being the best. He had some governmental precedents for such a choice, as at previous dates the Geological Survey had made various explorations all over the country leading to investigation of water sources, and as early as 1891, 10 years previously, had suggested this Hetch Hetchy source as being the best for a supply for the city of San Francisco.

I will not intrude on your time with a history of those governmental negotiations or governmental recommendations. I have transcribed the matter historically, and with your permission I will put my transcript in the record as an exhibit.

The CHAIRMAN. I think it would be very well to let it go in the record. It is your own compilation.

Mr. O'SHAUGHNESSY. I have made a complete analysis of the whole situation.

The CHAIRMAN. Unless there is objection, it will go in the record. (Said transcript follows:)

The new charter of San Francisco went into effect on January 8, 1900. During that year and the succeeding one the board of supervisors caused to be made, by the board of public works and the then city engineer, Mr. Grunsky, an exhaustive study of the possible sources of water supply available for the future needs of the city. These examinations and studies embraced (1) Spring Valley waterworks and supplies adjacent to the city of San Francisco; (2) Lake Tahoe; (3) Yuba River; (4) Feather River; (5) American River; (6) Sacramento River; (7) Eel River; (8) Cache Creek; (9) San Joaquin River; (10) Stanislaus River; (11) Mokelumne River; (12) Tuolumne River. These investigations, which covered a period of two years, resulted in the selection of the Tuolumne River as the most available source, as this shed had a mean rainfall which yielded about 2,080,000 acre-feet per year. It was also the purest and most abundant source and presented the best reservoir sites for storage. The Hetch Hetchy Reservoir, with a dam 300 feet high, will store 345,000 acre-feet of water, covering 1,930 acres of land. The Lake Eleanor Reservoir, with a dam 150 feet high, will store 288,000 acre-feet of water and cover an area of 1,443 acres. Owing to the peculiar configuration of the Sierra Nevada Mountains, the number of available reservoir sites are limited, and without the water being conserved in such reservoirs there will be great annual waste to sea each year.

Above the Hetch Hetchy, Lake Eleanor, and Cherry dam sites there is an area of 639 square miles of the most ideal catchment areas. The purpose of the city's application is to store the flood waters, which would otherwise be wasted, in those reservoirs and gradually utilize them as required.

It is claimed the appropriation of Lake Eleanor and Hetch Hetchy Valley for the proposed storage water would enhance rather than detract from their natural beauty.

Both of these sites have been recognized by the Department of the Interior as desirable and available for the storage of the flood waters of mountain streams, as demonstrated by the reports of the United States Geological Survey, in which these reservoir sites are repeatedly referred to. A plat of the Hetch Hetchy Valley was submitted to the Secretary of the Interior by the United States Geological Survey, and its reservation from entry of settlement according to law was asked for under date of February 27, 1891. (See open statement on page 36 of part 2 of the Twelfth Annual Report of the United States Geological Survey.) A further report upon the availability of this reservoir site, with a study of the works necessary at the dam site, are contained in the Twenty-first Annual Report of the Survey, pages 450-465, in which on page 459 it is stated:

"Another purpose which this dam and reservoir might be made to serve would be to furnish the city of San Francisco an unfailing supply of water. Without entering into details, it will suffice to say that the dam and reservoir as proposed would insure a supply in the dry years of 250 gallons per diem per capita for 1,000,000 people."

Lake Eleanor and the segregation of its lands for reservoir purposes are referred to in part 2 of the Eleventh Annual Report of the United States Geological Survey, page 157, on the plates between pages 160 and 161, and on page 167; also in the Thirteenth Annual Report, part 3, page 402. Neither of the sites referred to are now accessible by wagon road, and are never visited by any considerable number of persons, except by a few tourists in the months of July, August, and September.

In 1901 the city of San Francisco made surveys of both Lake Eleanor and Hetch Hetchy Reservoir sites, and filed on same in the name of its then mayor, James D. Phelan, who afterwards conveyed his rights to the city of San Francisco. These rights were denied by the Secretary of the Interior on January 28, 1903. He later granted a rehearing, and again denied them, December 22, 1903, alleging that the act of October 1, 1901, did not authorize such grant, and suggesting an appeal to Congress.

Strong opposition was put forward to the granting of these rights, in large part instigated by the Spring Valley Water Co., at present supplying the city of San Francisco with water, which company sent its chief engineer on to Washington, where he intervened with the then Secretary of the Interior and appeared in opposition to the application of the city before its officers were apprised of such audience and prior to the date set for rehearing. This company also through and by the same officer worked up a strong opposition in the Modesto and Turlock irrigation districts, which have rights to the natural flow of the Tuolumne River below the sites of the reservoirs, and by making extravagant and misleading representations to the people of those districts succeeded in arousing a hostile sentiment against the city's utilization of those waste waters.

On May 11, 1908, Secretary James R. Garfield made a grant to the city and county of San Francisco, subject to the conditions that the city should develop the Lake Eleanor site to its full capacity before beginning the development of the Hetch Hetchy, and that the development of the latter should be begun only when the needs of the city and county of San Francisco and adjacent cities which might join with it in obtaining a common water supply might require such further development.

On February 25, 1910, his successor in office, R. A. Ballinger, wrote a letter to the mayor and supervisors of the city and county of San Francisco demanding the city to show cause why the Hetch Hetchy Valley and reservoir should not be permanently excluded from the permit. A hearing was had before the Secretary May 25, 1910, at which the representatives of the city and others appeared, when it was agreed that the matters in controversy should be submitted to an advisory board of Army engineers to pass on the merits of the question. The Secretary of War, by Special Order No. 116, detailed Col. Spencer Cosby, United States Army, Lieut. Col. John Biddle, and Lieut. Col. Harry Taylor as a board to pass on those questions and scrutinize and review all data regarding same, and report to the Secretary of the Interior.

In November, 1912, an exhaustive hearing was held at Washington before the Secretary of the Interior, Hon. Walter L. Fisher, and the Army board, at which all elements of this proposition were exhaustively discussed. On February 19, 1913, the above Army board filed a report (H. Doc. No. 54, p. 50), in which their conclusions are set forth, which amply sustain the contentions of the city. The time was too short, however, for the Secretary of the Interior to pass on the permit for the use of the Hetch Hetchy before he left office March 4, 1913.

The new Secretary, however, Mr. Lane, who is thoroughly familiar with the subject and the needs of the Pacific coast, has brought the necessities of the present situation clearly before you. The situation now stands, briefly, as follows:

After two successive dry years the storage and the present water supply of San Francisco are very low and another dry year will produce an absolute famine for the 500,000 people in San Francisco and the 300,000 people residing on the other side of the bay in the three cities of Oakland, Alameda, and Berkeley. It will take a number of years to build those dams and bring the additional water into San Francisco, which is bound to have a greatly accelerated growth with the opening of the Panama Canal and other incentives. The city's policy has been harassed by the changing views of different Secretaries of the Interior, and it now desires an outright grant from Congress of the rights which it seeks. The irrigation districts, which are in the watershed using the Tuolumne River, have come to an amicable settlement with the city for the distribution and storage of water.

As has been expressed by Secretary of the Interior Lane, all available data on the subject of the use of the Tuolumne waters is at hand in Washington. During three years' investigation the city of San Francisco spent in the aggregate \$300,000 in engineering data, employed John R. Freeman as consulting engineer, and he in turn employed Hazen and Whipple, Myron Fuller, noted geologist, and many other competent engineers of international reputation, who made exhaustive studies of every available source of water supply in the northern part of California. The studies of these engineers were presented in minute detail to the advisory board of Army engineers, and this data was compiled by H. H. Wadsworth, engineer in the employ of that board, after which the board of Army engineers made its report, including conclusions that are unequivocally in favor of the proposition of San Francisco. Prior to the filing of the report there was a one-week hearing before the Secretary of the Interior, during which the several engineers were interrogated by the Secretary and the Army board, and full analysis of every report was procured orally. The contentions of everyone concerned were fully heard.

In view of the findings of the Army board, San Francisco feels that the grant requested should be made without further delay.

Mr. O'SHAUGHNESSY. Now, the result of all the various negotiations for the development of this supply was the Garfield permit, which is printed in the first pages of this House Document No. 54.

The CHAIRMAN. That is the document known as the Army board report?

Mr. O'SHAUGHNESSY. Yes, sir; and under it the city had the right to go ahead and develop the Lake Eleanor portion of the project first and subsequently take up the Hetch Hetchy project, though the consensus of opinion among San Francisco engineers was that the Hetch Hetchy project, being the most available dam site, should be the first dam constructed in the project. The city was willing, about four years ago, to go ahead with the Lake Eleanor project alone, but an order made by Secretary Ballinger, who succeeded Secretary Garfield, demanded of San Francisco the reason why it should not permanently surrender all rights to develop the Hetch Hetchy Reservoir. The numerous reports made by the Army engineers and 23 separate reports made by engineers employed by the city of San Francisco, which are delineated on pages 10, 11, and 12 of the Army board's report, were compiled for the purpose of showing why San Francisco should not be excluded from Hetch Hetchy, and also to show why San Francisco should be permitted to build the Hetch Hetchy dam first.

There are engineering and many other reasons why the Hetch Hetchy dam should be built first. The main engineering reason is because the dam site is an extremely practical one, and I say so with all confidence, having completed four successful dams in my lifetime and knowing the requirements necessary for a first-class and economic dam. The Hetch Hetchy dam gorge is only 100 feet wide in the bottom, and with a dam 300 feet high it will be only 760 feet wide at the

top. The Lake Eleanor Dam site will be at least 300 or 400 feet wide in the bottom and over a quarter of a mile, 1,690 feet, wide at the top. The rock formation at Lake Eleanor is not of the same character as that at the Hetch Hetchy site. At the Hetch Hetchy site there is a uniform character of granite which gives any engineer of experience the assurance that he can build a stable dam of this magnitude. At the Lake Eleanor site the formation is pretty much mixed and considerable exploration would have to be done to demonstrate the feasibility of a very high dam. In the matter of construction a great burden would also be imposed on the city of San Francisco in being compelled to build the Lake Eleanor Dam in the first place, for the reason that the aqueduct by which the waters will be lead to San Francisco follows down the gorge of the Tuolumne River, which you see on that map on the right-hand side [indicating]. This aqueduct will demand the construction of roads along its route which would all lead to Hetch Hetchy, while if the Eleanor Dam is built first an entirely separate and costly transportation system from the north will have to be provided. I will say, in reference to that map, that it shows the three divisions of the watershed proposed to supply San Francisco with water. The Hetch Hetchy branch of that watershed has an area of 459 square miles; Eleanor has an area of only 79 square miles; and Cherry Creek 114 square miles; in other words, there is very nearly six times the tributary area to fill a large reservoir on the Hetch Hetchy site than there is on the Eleanor site. So that in many years of drought or of lighter years of rainfall, with the irrigation requirements that have to be met, a dam at Eleanor will be practically valueless, whereas a dam on the Hetch Hetchy will always impound a considerable volume of the flood waters.

Personally, about the 15th of last September, two weeks after taking office, I made a reconnoissance and exploration of this whole problem entirely unbiased and open for any impressions that the situation might make on me, to regard absolutely the merits of the proposition as an officer of the city of San Francisco, and I came unhesitatingly to the conclusion that the construction, in the first place, of the Hetch Hetchy Dam was an indispensable part of this project. One of the main reasons which influenced me in reaching such a conclusion was the peculiarity of the run-offs of this watershed. Those vertical columns that you gentlemen see on that map are the relative volumes, in acre-feet, from the year 1896 to 1911, showing the flow of the Tuolumne River at La Grange Dam. The columns indicate acre-feet, as shown by the scales on the right and left.

The CHAIRMAN. In order that we may arrive at a just conclusion about that, will you state what the lowest year was, in acre-feet, and the highest year, so we can, by comparison, judge of the different years? According to that map the lowest year seems to be 1898 and the highest year 1907.

Mr. O'SHAUGHNESSY. The lowest is approximately 850,000 acre-feet.

The CHAIRMAN. That is in 1898?

Mr. O'SHAUGHNESSY. Yes, sir; and the highest is over 3,500,000 acre-feet in 1907. The average of the 20 years is 2,080,000 acre-feet. Now, in order to conserve this water it is absolutely essential to have large storage reservoirs to impound it in times of flood, because the most of the flow comes in about four months of each year,

and very often a great percentage of the flow comes in one month or in two weeks. So unless the reservoirs are constructed in front of those enormous flows they will simply waste away uselessly to sea. And viewing that situation, the condition very forcibly impressed itself on me that all the storage sites in this watershed must be eventually availed of by constructing dams to avoid the economic waste in California, where water is so valuable and indispensable to life and where the conservation of all water in that State is absolutely essential. And this water can not be conserved without the utilization of all the storage reservoirs that are available.

I think in yesterday's record you have a statement from the Army board as to the aggregate extent of those reservoirs as being about 900,000 acre-feet, but the two very valuable reservoir sites are Eleanor and Hetch Hetchy. Eleanor, with a dam 150 feet high, will store 288,000 acre-feet; Hetch Hetchy, with a dam 300 feet high, will store 345,000 acre-feet; and the other smaller reservoirs, distributed in various places throughout the watershed, will enable you to store, in the remote future, a total of possibly 900,000 acre-feet of water. Until the necessities and value of water become greater, many of those reservoir sites will not be economically practical. In other words, if the price of storing water per acre-foot goes up to too high a price, the farmers can not use it: it will cost too much money and the water can not be conserved. Cities, on the other hand, where the necessities of domestic life are greater, can afford to go to a greater expense in this character of work for conserving water.

The direct question and issue here, as I understand it, is between our present rights under the Garfield grant and what we want under this proposed bill, and I will briefly take up the bill, so far as it affects the Government, and deal with those different questions. First comes the question of sanitation on page 11.

The CHAIRMAN. And make your references by page and line, so the committee can follow you.

Mr. O'SHAUGHNESSY. Page 11, line 11, paragraphs (a), (b), and (c); page 12, paragraphs (d), (e), and (f). I will say with regard to those restrictions that the greatest care was given to their formation by Mr. Allen Hazen, who is the greatest authority on sanitation of water supplies in the United States. He designed and supervised the filtration plant for the city of Washington, the city of St. Louis, and many of the other cities in the country, and those clauses have had his careful consideration and approval. I will next come to the irrigation factor.

Mr. SINNOTT. I would like to ask a question at this point. Do you think that these clauses are sufficient to absolutely protect the sanitation of this section?

Mr. O'SHAUGHNESSY. I do, sir.

Mr. SINNOTT. It is intended, in bills introduced relative to the Bull Run reserve in Oregon, that no roads shall be constructed in the reserve and no one allowed there at all.

Mr. O'SHAUGHNESSY. Well, the conditions are different in Bull Run than in San Francisco. In Bull Run you run the flowing water from your source of supply directly into your city pipes and reservoirs, while under our proposed scheme we store the water for quite a while in Hetch Hetchy before taking it through our aqueduct and then it rests in storage reservoirs in the vicinity of San Francisco for many months before it is used.

Mr. SINNOTT. Do you not think Bull Run could be protected, as far as sanitation is concerned, in the same way as it is protected here?

Mr. O'SHAUGHNESSY. If you had storage reservoirs between Bull Run and your city, which would give the water a time to rest in a state of stillness before being used, then you could apply those regulations. I have never visited Bull Run, but I believe that by using ordinary care you could permit a limited use of your park, and without destroying its value as a water source.

I will next come to the irrigation features of this proposition, and this really has been the most serious question of any in relation to this bill.

The CHAIRMAN. That is on page 13, line 1?

Mr. O'SHAUGHNESSY. Yes, sir. Having been identified with irrigation projects for 10 years, I gave a great deal of consideration to the requirements and demands of the people who have been diverting water from the Tuolumne River below us, and whose rights, to a certain extent, they feared we were going to intrude upon. The city attorney, our board of supervisors, and myself, after the hearing in Washington before Secretary Fisher last November, took up this phase of the subject very carefully, and to the main conditions which those people demanded we gave favorable consideration, and that was the right of those irrigation districts to purchase in the future surplus water which we did not need at cost to them. I think the arrangement that we have made is eminently fair. In those irrigation districts, as now constituted, there are 257,353 acres. The entire extent of land irrigated by them in the last 10 years has been 119,700 acres—that is, directly by surface application. Indirectly a very large part of the adjacent district has felt the influence of the application of this surface water because, the soil being porous and of a sandy formation, the water applied to the surface of one portion of the district has percolated through and gives ground water or sub-surface irrigation in many portions of the remaining parts of the district. And from some of this land, under the influence of this ground water, practically as good crops are obtained as from the land where the surface application has been made.

Mr. CHURCH. As to those lands indirectly benefited it has amounted to a kind of subirrigation, has it not?

Mr. O'SHAUGHNESSY. Yes.

Mr. CHURCH. Because the water goes into the sand and the moisture raises to the surface by reason of cultivation and the plant life that grows there?

Mr. O'SHAUGHNESSY. Yes, sir; one of the temptations of this district, owing to the flashy nature of the river, was to apply too great a volume when they had the water to the land, but I can show that better by reference to this diagram. For many months of the year, as I have said, the water comes down in great volume, sometimes as high as 20,000 and 30,000 second-feet per day. That is equivalent to 40,000 or 60,000 acre-feet per day. That comes in seasons of the year when irrigation is not needed and the result is that all of that valuable water goes uselessly to waste to the sea. The capacity of their diverting canals at the present time is about 1,800 second-feet, or at most, 2,000 second-feet.

Mr. TAYLOR of Colorado. Some of the western members of the committee understand what you mean when you say second-feet and acre-

feet, but probably two-thirds or three-fourths of the committee have never heard those terms before, and I would suggest that you explain what is meant by them.

Mr. O'SHAUGHNESSY. I will say that an explantaion is to be found on page 6 of the Army report. One second-foot is equivalent to 646,000 gallons daily and that is practically equivalent to 2 acre-feet. In other words, 1 second-foot of water per day would cover 2 acres of ground 1 foot deep.

Mr. TAYLOR of Colorado. How many acres do you estimate or figure on that quantity of water irrigating? What is the duty per second-foot on the water; that is, how many acres?

Mr. O'SHAUGHNESSY. It is estimated that $2\frac{1}{2}$ acre-feet would be used for 1 acre. Two and a half acre-feet of water will take care of the irrigation of 1 acre of land.

Mr. TAYLOR of Colorado. One cubic foot per second—

Mr. O'SHAUGHNESSY (interposing). It would be about 160 acres for 1 cubic foot per second for six months of the year.

Mr. TAYLOR of Colorado. That is putting a rather high duty on those farmers down there, is it not?

Mr. O'SHAUGHNESSY. Do you mean that the water should go farther?

Mr. TAYLOR of Colorado. No, sir; less. Do you make them irrigate 160 acres with 1 cubic foot and then figure on that the amount of the shortages which must be deducted from that quantity? That is a high duty on the users.

Mr. O'SHAUGHNESSY. In the reclamation projects, with which Director Newell is familiar, and about which he testified, the average result of their operations is $2\frac{1}{2}$ acre-feet for each acre of land. Of course, that varies with the character of the land and the climatic conditions, the soil conditions, and various other factors.

Mr. TAYLOR of Colorado. But they are raising the quantity beyond any reason, I think, for the purpose of not making such an exorbitant showing in the cost of construction. It looks that way to me. In Colorado we never think of irrigating more than 100 acres of land with a cubic foot per second, and all throughout the western half of the State the legal and established ratio is only about 50 acres. All over the western half of the State we have never raised it to 100 acres. Of course, in the northern part of the State we have more of it and use it more freely, but when you figure on a duty of irrigating 160 acres with 1 cubic foot per second, and then make that stand such possible shortage as may occur in addition to that, you are cutting them down pretty short.

Mr. O'SHAUGHNESSY. Well, they are familiar with the conditions and have discussed all of the aspects of this question, and their engineer is here and we have threshed out with them all these problems.

Mr. TAYLOR of Colorado. This is satisfactory to all of the parties who are directly interested?

Mr. O'SHAUGHNESSY. Yes, sir.

Mr. TAYLOR of Colorado. Of course it depends somewhat on the quantity of the rainfall?

Mr. O'SHAUGHNESSY. Yes, sir; and then, of course, the future may demand different conditions. Much of this land that is now in alfalfa and other crops may be converted into orchards, and orchards, as you know, demand less water.

Mr. TAYLOR of Colorado. In some cases they irrigate 300 acres with a cubic foot.

Mr. O'SHAUGHNESSY. Yes, sir. Referring to the diagram in blue, that is, the upper diagram, that is a graphic chart of these same 20 years in vertical scale [indicating] showing the character of the run-off of this Tuolumne River. The lower chart shows the total quantities, whereas the upper shows the ratio of run-off. Now, if you will observe [referring to chart on wall], there are some peak flows going up, as you will see [indicating], to over 25,000 second-feet. That is 50,000 acre-feet per day. That is the condition that exists now and all this water is wasted, as there is no means to divert or hold it. The entire storage capacity of the district at the present time is a little over 70,000 acre-feet. The capacity of their canal is about 4,000 acre-feet per day, so that with a flow of 25,000 second-feet or 50,000 acre-feet per day, all over 4,000 acre-feet, or 46,000 acre-feet per day, is wasted, which is a great economic waste. You see from the peak period there [indicating] for three or four months in each year, generally in the spring of the year, from March until June, they are the periods of heavy run-off and excessive wastes.

Mr. GRAHAM. How much of that waste would the construction of the dam at Hetch Hetchy and the one at Lake Eleanor prevent?

Mr. O'SHAUGHNESSY. About the capacity of these two dams, that is, roughly, about 635,000 acre-feet.

Mr. GRAHAM. Well, putting it in percentage form?

Mr. O'SHAUGHNESSY. About 30 per cent of the entire average annual run-off of 2,080,000 acre-feet.

Mr. GRAHAM. Still leaving a waste of 70 per cent.

Mr. O'SHAUGHNESSY. In years of heavy run-off, such as 3,000,000 acre-feet, the flow from that watershed is inevitably bound to be much greater and a waste, much of which can not be arrested, due to a lack of storage sites.

The CHAIRMAN. Could it be caught by lower diversion dams?

Mr. O'SHAUGHNESSY. Unfortunately the channels you would have to make would have to be so large that it would be financially almost impracticable to build them, the expense would be so great. But by combinations of high reservoirs on desirable sites at higher levels to hold back the flood from the lower reservoirs, and by providing large or diverting channels, it would be possible to arrest a great portion of this waste.

Mr. TAYLOR of Colorado. Could this dam safely be built higher at Hetch Hetchy?

Mr. O'SHAUGHNESSY. I have built a dam 260 feet high in San Diego County, in southern California. The Reclamation Service have built some dams about 300 feet high.

Mr. TAYLOR of Colorado. Three hundred and twenty feet high, I guess.

Mr. O'SHAUGHNESSY. Yes, sir; about 320 feet high, but the conditions were peculiarly favorable. I believe a dam 300 feet high could be built safely in the Hetch Hetchy.

Mr. RAKER. Do you mean that this quantity of water passes behind this dam site at Hetch Hetchy?

Mr. O'SHAUGHNESSY. A very large proportion of it.

Mr. RAKER. And that you have got?

Mr. O'SHAUGHNESSY. Yes, sir; about 60 per cent of the entire flow of the Tuolumne sheds measured at Lagrange Dam is included in this

area of 650 square miles near the summit of the mountains that we are going to impound.

Mr. GRAHAM. What is the height of the Croton Dam?

Mr. O'SHAUGHNESSY. About 175 feet; and the new Peekskill Dam, now being built by the city of New York, will be about 300 feet high.

Mr. GRAHAM. That is the one I was thinking about.

Mr. O'SHAUGHNESSY. Yes, sir; that is one of the largest dams in the East. Now, if I remember right, I was talking about the question of irrigation. For the past 10 days there have been earnest conferences between the city's representatives, Mr. Long, myself, and Mr. Griffin, the attorney for the Turlock-Modesto irrigation districts; Mr. Smith, the engineer for the Turlock irrigation district; Mr. Jones, the attorney for the Modesto irrigation district; Mr. Corey, the engineer for both districts; Mr. Needham, their special representative; and Judge Fulkreth, county court judge of Stanislaus County, the county in which these districts lie. We have had a very earnest discussion of this situation, and we have arranged what I believe is an equitable plan for the handling of this water. In other words, for a great many years we will not need this immense storage for our own use. Our use is going to be gradually increased—

Mr. GRAHAM (interposing). Before you get too far away from that subject I would like to inquire whether all of the parties at interest in the matter and those who now insist that they have interests involved were represented?

Mr. O'SHAUGHNESSY. Well, they professed to represent both of these districts and also one of the outside districts known as the Waterford district, and on their request to us and on their presentation of the matter we raised the area of their two districts to which they could apply this water, which includes now 257,000 acres, to 300,000 acres, so as to include the 20,000 acres of the Waterford district, supposed to be represented by Judge Dennett. Judge Dennett was not here at this conference. Judge Fulkreth informed me that he invited him to come with them when they came on here but that he preferred to stay behind, and last Sunday, after all the arrangements with the irrigation representatives were made, he came on. Some discussions have been had between him and these gentlemen as to the extent of the protection he had from these districts as to the 20,000 acres, and I believe they have not yet made an amicable settlement of the matter among themselves. So far as the city of San Francisco is concerned, we have enlarged our limit from 257,000 acres to 300,000 acres, so that these districts and the outside districts represented by Judge Dennett may be included in the benefits of this arrangement.

Mr. DENNETT. The amount of water which you have stipulated shall go to the Turlock-Modesto district is not greater than the amount which was stipulated in the Garfield permit to go into that original territory?

Mr. O'SHAUGHNESSY. That is correct.

Mr. FULKERTH. I wish to state that while Mr. O'Shaughnessy means to be absolutely correct in his statement, I think it is not exactly correct in one particular. I do not think that we ever said that we represented the Waterford district, because we did not represent them in any way except, possibly, as we were representing the whole territory of the San Joaquin Valley. We had no authority

to make any arrangement that would be binding upon them. In the conferences that were held we did the best we could to bring that district in and we did induce them to include an allowance for that district—that is to say, they raised the limit from 257,000 acres to 300,000 acres. Now, of course, in doing that in the conference the matter of the Waterford district was discussed. We knew, of course, that there was such a district in contemplation, although we had no authority to represent them. We simply took that much authority and tried to protect them in the matter.

Mr. GRAHAM. Were all of the existing interests represented at the conference?

Mr. FULKERTH. The Turlock-Modesto district was.

Mr. GRAHAM. What I want to know is, were all of the proper parties before the court?

Mr. FULKERTH. The attorney for the Modesto district was here and the engineer for that district; the attorney for the Turlock district and the attorney for the Modesto district were also here. Mr. Needham and myself simply represent the two districts, and, so far as I am concerned, without any compensation whatever. There were no other interests represented there. The valley is represented by Mr. Church in Congress, who is a member of this committee. We have simply tried as best we could to protect the district. That is our main purpose.

The CHAIRMAN. I would like for the record to show right here just how much land is actually under irrigation in the Turlock and Modesto districts now?

Mr. O'SHAUGHNESSY. One hundred and nineteen thousand seven hundred acres.

The CHAIRMAN. What is the greatest amount that the Turlock-Modesto irrigation people can secure under the law and their prescribed rights?

Mr. O'SHAUGHNESSY. The entire area in the district is 257,000 acres.

The CHAIRMAN. And you have agreed to furnish water for 300,000 acres?

Mr. O'SHAUGHNESSY. We have agreed to permit them to distribute their water over a wider territory than that embraced in their two districts by which this additional land of their choice may be brought in.

The CHAIRMAN. Which is the equivalent, according to the terms of the bill, on page 13, to raising it to 300,000 acres?

Mr. O'SHAUGHNESSY. Yes, sir.

The CHAIRMAN. A part of that 300,000 acres is actually entitled under the laws of California to water rights; that is, it is actually segregated and has appropriated water by use in due course?

Mr. O'SHAUGHNESSY. I really believe that nobody is protected except the irrigation districts—

The CHAIRMAN (interposing). What I am trying to get at is this: There are 119,700 acres under cultivation and irrigation now, and there are 257,000 acres in the two districts all told?

Mr. O'SHAUGHNESSY. Yes, sir.

The CHAIRMAN. And there is none, in addition to that, that you believe is protected under the State law?

Mr. O'SHAUGHNESSY. Yes, sir; that is true.

The CHAIRMAN. So that San Francisco in effect has provided for all of the interests that are provided for or protected under the law and has provided for some 43,000 acres additional?

Mr. O'SHAUGHNESSY. They raised the limit by 43,000 acres.

The CHAIRMAN. I understand that you met some conditions there as to the water rights which prompted you to agree to allow 43,000 acres more than was actually segregated under the law?

Mr. O'SHAUGHNESSY. In other words, we gave the district the right to add this additional land in any way they saw fit, either for these other people to form separate districts or make any other arrangement they might elect.

Mr. KENT. Do I understand that there are 257,000 acres of land in these two districts that are actually protected under the law by appropriation and use?

Mr. O'SHAUGHNESSY. I believe so.

Mr. TAYLOR of Colorado. Do you think they have rights prior to those of San Francisco to that quantity of water?

Mr. O'SHAUGHNESSY. Of course that is more of a legal question than an engineering question, but San Francisco is not going to interpose any technicalities on them so far as enlarging their canal to take 2,350 second-feet or in building storage reservoirs or improving their facilities in any way they choose.

Mr. TAYLOR of Colorado. Would this construction of the Hetch Hetchy plant here interfere with their present system of distributing this water?

Mr. O'SHAUGHNESSY. We provide one other clause to this condition, which is that whenever there is less than 2,350 second feet in the flow of the Tuolumne at their diversion point, all of that water must be allowed to flow down to them when they are beneficially using it.

Mr. TAYLOR of Colorado. Who determines that?

Mr. O'SHAUGHNESSY. We have stipulated that by agreement.

The CHAIRMAN. Will that be prescribed in the legislation?

Mr. O'SHAUGHNESSY. That is covered by the Garfield permit.

The CHAIRMAN. Is that in force?

Mr. O'SHAUGHNESSY. Yes, sir.

The CHAIRMAN. Does this bill vitalize the Garfield permit?

Mr. O'SHAUGHNESSY. It supersedes it.

The CHAIRMAN. Then, this legislation would be really the only thing that would determine the relative rights of these parties?

Mr. O'SHAUGHNESSY. Yes, sir; the relative future rights.

The CHAIRMAN. If it does not do it, how would they be determined?

Mr. FULKERTH. We understand that if this bill goes through, the Garfield permit will be revoked. I think it is still in force.

The CHAIRMAN. Does this proposed legislation vitalize or repeal the Garfield permit?

Mr. FULKERTH. I do not think it repeals it except in so far as it is inconsistent with it. My idea is that the Garfield permit is to be revoked. Of course, if it does not go through, unquestionably, at the request of San Francisco the Garfield permit will be revoked.

The CHAIRMAN. Should not this legislation deal with every phase of it rather than have the relative rights of these people to depend on some revocable permit issued in 1908?

Mr. LONG. I might say for the information of the committee that Secretary Lane has already revoked that part of the Garfield permit which applies to Hetch Hetchy Valley.

The CHAIRMAN. So there is nothing in the Garfield permit that is in conflict with the bill as now drawn?

Mr. LONG. No, sir.

Mr. FULKERTH. I believe that is true.

Mr. LONG. He revoked that in my presence last March.

Mr. TAYLOR of Colorado. Is there any record of that?

Mr. LONG. It is in writing.

Mr. TAYLOR of Colorado. Why not have that reported to the committee?

Mr. RAKER. This legislation would be superior to the Garfield permit.

Mr. BROWN. On page 34 of the engineers' report there is a statement to the effect that 60 cubic feet are used by the La Grange Water & Power Co. Now, I have seen nothing in this bill relative to that. You will find it on page 34 of the engineers' report. It states that 60 cubic feet per second are used by the La Grange Water & Power Co. Have you considered that?

Mr. O'SHAUGHNESSY. Yes, sir.

Mr. JOHNSON. Is there any water diverted from the river except for the Turlock-Modesto irrigation districts?

Mr. O'SHAUGHNESSY. There is one small power plant using about 60 second-feet.

Mr. JOHNSON. For irrigation purposes?

Mr. O'SHAUGHNESSY. No, sir.

Mr. JOHNSON. That is the only point of diversion?

Mr. O'SHAUGHNESSY. Yes, sir.

Mr. RAKER. The Turlock and Modesto districts are municipal corporations or public corporations under the laws of the State of California. The territory is fixed by a vote of the people and then is formed. The exterior boundaries of the districts are thus fixed, are they not, as you understand it?

Mr. O'SHAUGHNESSY. That is correct.

Mr. RAKER. And any additional territory that they would take in would have to be under an act to add so much land to the present territory now constituting the district?

Mr. O'SHAUGHNESSY. Yes, sir.

Mr. RAKER. And the people of the district vote upon that question. I want this fact to appear in the record in order that it may show the relative conditions.

Mr. O'SHAUGHNESSY. In order to emphasize that point about these outside lands embraced beyond the 257,000 acres I want to say that representatives of these districts came to us and asked us to take care of and include them, and we agreed to do so. Now, as I told you, the reason why we desired grants by Congress of these rights for a domestic water supply is that the great city of San Francisco and the group of cities to be associated with it, such as those that surround the Bay of San Francisco, do not desire to be constantly subjected to capricious actions on the part of departments here at Washington. Every two years there is a change of the Secretary or a change of the policy of the Interior Department—

Mr. TAYLOR of Colorado (interposing). Every two weeks, sometimes.

Mr. O'SHAUGHNESSY (continuing). And a big city like San Francisco and the cities around the bay, Oakland, Alameda, and Berkeley, the population of which at the present time is 800,000 people, want to be secure in their rights so that they may go ahead with a definite plan and a definite policy and prepare for the future. Dam structures of this kind, large engineering dams and structures, require that the most careful thought and consideration be given not only to design but program of construction so that no mistakes may be made, and if we are constantly moving from one part of this watershed to the other with the changing views of department heads our plans will be most indeterminate and we can reach nowhere.

Mr. RAKER. It also becomes a vital question in the issuance and sale of bonds to have permanent rights.

Mr. O'SHAUGHNESSY. It seriously damages the credit of the city to be building large works on a revocable permit. Now, the question was brought up yesterday in regard to this proposition of exchanging lands. There is no question of land exchange involved in this bill such as is suggested in the Garfield permit. Under the Garfield permit the city was not required to expend at least half a million dollars in trails and roads to meet the requirements of the department and the users of the reserve. Neither was the city required for its electric power to pay the Government any toll of any kind.

The CHAIRMAN. Is that a requirement of the Garfield permit or of this bill?

Mr. O'SHAUGHNESSY. The Garfield permit did not require that. Under this bill we are required to spend at least a half a million dollars in making roads and trails and in the opening up of this park to the public. We are also required, after the municipal uses are served, to pay the same tolls on hydroelectric energy to the National Government as any private corporation, so, while these lands, except for construction purposes, are of no particular benefit to the city, I do think that during the construction period they should be left entirely in our possession absolutely. We would like to have exclusive control of our camps and of our men and not be subject to capricious kinds of orders. Some time in the past we were refused permission to make a survey of the Hetch Hetchy Valley. Last November when we came to Washington we were unable to present such a survey, due to the attitude of the military authorities who are in charge of the park, and it was only under a special permit issued by Secretary Fisher last December that we were able to make this map [referring to map of Hetch Hetchy Valley on wall]. In the middle of last winter to complete this survey we had to go over the precipices and hang around there under all kinds of difficulties and disadvantages in weather and other conditions and do this work.

Mr. TAYLOR of Colorado. Was there any military control of the forest reserve?

Mr. O'SHAUGHNESSY. The military have charge of the national park.

Mr. RAKER. That park is directly under the Secretary of the Interior.

Mr. O'SHAUGHNESSY. The forest supervisors have charge of the forest. However, I do not think that the Government should ask us

now to transfer these lands, and not until all of our construction operations are complete, when I think we shall freely do so.

The CHAIRMAN. Do you think the bill ought to be modified so as to leave the lands under your control absolutely until the construction period is over, with some sort of reversionary clause, so that they will then revert to the Government?

Mr. O'SHAUGHNESSY. Yes, sir.

The CHAIRMAN. There was a suggestion from some member of the committee, and I thought it was a very good one, to the effect that we ought not to leave it in the power of San Francisco to enter into competition with anything that the National Government might want to do there in the park.

Mr. RAKER. The same thing comes up in relation to the people of that district. They have given consideration to that question, and for the first time in the history of this legislation they are willing to consent to these conditions; that is, that when the city and county of San Francisco are given this right they should not be left in there to compete with the Federal Government in the control of the park.

Mr. LONG. The terms of the Garfield permit required the release on the part of the city of lands outside of the floor of the valley and the relinquishment to the city of lands that would be submerged in the Hetch Hetchy. That was the idea of the Garfield permit—that the city should own all the land on the floor of the valley which would be covered by water, and because the Government relinquished that land the city should assign these other areas outside of the floor of the valley which were then held in private ownership and are now the property of San Francisco. I think it would be wise to have a clause in this act authorizing the Secretary of the Interior to make that exchange when the construction period has passed.

The CHAIRMAN. The thought of the engineer and yourself is that to have them granted immediately might subject you to some arbitrary order coming from Washington, far away, which would be annoying to you?

Mr. LONG. Yes, sir: that has been our experience in the past, and we wish to avoid it, if possible.

Mr. DECKER. What is the nature of the land that you own, privately, now? Are they forests?

Mr. LONG. They are partially forests, camp sites, and some small meadows. One, known as the Tiltill meadow, some distance above Hetch Hetchy Valley, which was in private ownership and which we bought for the purpose of turning it over to the Government for a camp site. It is an ideal one. Another one is Hog Ranch, which is up here [indicating on map], just before you go into the valley, partly in timber and partly meadow.

Mr. DECKER. If this land is to be exchanged, would we be justified in postponing this exchange until after you have used it? The point I am getting at is what shape it would be in after you get through with it. As I understand, the value of this park is for its beauty. What protection would the Government have as to its preservation during this period?

Mr. LONG. It would be used simply for camping purposes.

Mr. DECKER. I do not mean that your faith is not good in the matter, but there should be some safeguards.

Mr. LONG. Yes, sir.

Mr. DECKER. Suppose you went in there—there are some beautiful trees which I have heard about, but have never seen, and you cut them down, or the campers or the men working on the dam should destroy them, it would become the duty of the Government to prevent such destruction. I have been around these construction camps. If it is a beautiful place which you are going to turn over to the Government, perhaps the Government should see to it that it is kept that way while you are there.

Mr. LONG. The trees which have been discussed have been the trees on the floor of the valley which are now the property of the city and, of course, will have to be cleared.

Mr. DECKER. They are the property of the city?

Mr. LONG. Yes, sir; the trees which have been particularly discussed.

Mr. DECKER. And they will have to be cut down?

Mr. LONG. Yes, sir.

Mr. DECKER. This other land that you are going to exchange, is it covered with these beautiful trees?

Mr. LONG. One portion is pretty well covered; yes, sir. The engineer can answer best what the needs of construction will be. I doubt if there will be any necessity for cutting timber unless possibly for building a few log cabins.

Mr. JOHNSON. The trees are so remote from the dam that they will not interfere?

Mr. LONG. I do not know. I have been advised by the engineer that there will have to be stations all along and a number of camps.

Mr. JOHNSON. How are the lands you propose to transfer to the Government situated with reference to the erection of this dam; are they in close proximity?

Mr. O'SHAUGHNESSY. Just above the Hetch Hetchy dam the city owns 720 acres in the floor of the valley. There will be other places where the teams will be herded.

Mr. DECKER. For your construction purposes?

Mr. O'SHAUGHNESSY. Yes, sir. After our construction purposes are terminated they will be of no advantage to us, and then we will be perfectly willing to turn them over to the Government.

There were some questions asked yesterday as to the area of the lands, and I will give you that specifically. In the national park, and that is also shown on the map on the left, the city property is marked in diagonal lines; there is the little Tiltill Valley of 160 acres, that is northeast of Hetch Hetchy Valley.

Mr. TAYLOR of Colorado. About how far?

Mr. O'SHAUGHNESSY. About 3 miles. It is right near the arrow on the map, just to the left. In addition, 720 acres in the floor of the Hetch Hetchy Valley, most of which will be submerged when the dam is built. Then on the way into the Hetch Hetchy Valley, southwest, is the canyon ranch of 160 acres. That makes altogether 1,040 acres in the vicinity of Hetch Hetchy. Then, around Lake Eleanor, on the northwest portion of the map, inside of the park, the city has 920.33 acres, making a total area inside of the national park of 1,960.33 acres.

The CHAIRMAN. How much of that land will be flooded and used for your own purposes, and how much will the Government finally get after you are through the construction work?

Mr. O'SHAUGHNESSY. The Hetch Hetchy dam to a height of 300 feet will flood 1,930 acres, and the Eleanor to a height of 150 feet will flood 1,443 acres.

The CHAIRMAN. That does not quite answer the question. Of the 1,900 acres that San Francisco holds in private ownership, how much of it will be flooded which, of course, would be using that part for your own purposes, and how much, later, will be conveyed to the Government?

Mr. O'SHAUGHNESSY. Before answering your question, I will state that immediately next to the national park and in the national forest adjacent thereto the city owns in the Cherry Valley 960 acres, and in the so-called Hog Ranch 322.45 acres, the Ike Dye Ranch of 163.68 acres, making a total in all of 3,406.46 acres. The entire area flooded by the Hetch Hetchy dam to a height of 300 feet would be 1,930 acres, and by the Eleanor to a height of 150 feet would be 1,443 acres, making a total area flooded in the park of 3,373 acres.

The CHAIRMAN. How much of that do you own already in private ownership?

Mr. O'SHAUGHNESSY. We own it all.

Mr. TAYLOR of Colorado. How much are you trading to the Government?

Mr. O'SHAUGHNESSY. The total area is about an even break. We shall trade all except the Dye place of 163.68 acres and 100 acres for power and watchmen's sites. We will exchange an entire area of 3,142.78 acres.

Mr. TAYLOR of Colorado. How much of that will you use hereafter?

Mr. O'SHAUGHNESSY. None except perhaps 100 acres for construction and operation uses.

Mr. TAYLOR of Colorado. How much of your land will not be flooded?

Mr. O'SHAUGHNESSY. There are possibly 120 acres on the floor of the valley we do not flood, and in Eleanor about 220.33 acres, making in all 340.33 acres of our land next those two reservoirs which will not be flooded.

The CHAIRMAN. You own in the park altogether 3,406.46 acres?

Mr. O'SHAUGHNESSY. In the park and in the adjacent forest reserve.

The CHAIRMAN. And there is to be flooded at Lake Eleanor and Hetch Hetchy 3,373 acres?

Mr. O'SHAUGHNESSY. That is correct.

The CHAIRMAN. How much of the 3,373 acres do you own and how much of the Government's land are you flooding?

Mr. O'SHAUGHNESSY. We own about 1,300 acres of the 3,373.

The CHAIRMAN. That is to be flooded?

Mr. O'SHAUGHNESSY. Yes, sir.

The CHAIRMAN. Then, if you flood 1,300 acres and you own 3,142.78 acres, what the Government would really get for park purposes and camp purposes would be the difference between those two figures?

Mr. O'SHAUGHNESSY. That is correct.

The CHAIRMAN. Which is 1,842.78 acres.

Mr. LONG. Not altogether that. Have you taken into consideration the power section down here [indicating]?

Mr. O'SHAUGHNESSY. Yes, sir; that is included.

Mr. LONG. We may need that later.

Mr. O'SHAUGHNESSY. The act would give us the right to have any site for power plants or conduits.

The CHAIRMAN. Have you made any estimate as to how much land would be taken up for that purpose? I do not know that it is of special importance, because possibly this land is not of so much value.

Mr. O'SHAUGHNESSY. I do not think our needs outside of the flooded area will exceed 100 acres.

Mr. LONG. Here [indicating] is a full section which we bought and hold in private ownership.

Mr. O'SHAUGHNESSY. I think about 100 acres will take care of our needs for power sites and caretakers.

The CHAIRMAN. Then, if you flood 1,300 acres of your own land and put in 100 acres more for a power site it would be 1,400 acres. If this land is all the land you will use and you would use of the Federal Government's land 2,073 acres, and you would give them back 1,822 acres, that would result in almost an even trade?

Mr. O'SHAUGHNESSY. It is very nearly even.

Mr. TAYLOR of Colorado. The purpose is simply to give the public adequate camping facilities hereafter?

Mr. O'SHAUGHNESSY. That is correct.

Mr. WHITMAN. If you figure it out, you will find that Mr. O'Shaughnessy has given you a mistaken impression, that it is not an even exchange.

The CHAIRMAN. Not approximately correct?

Mr. WHITMAN. No, sir.

Mr. O'SHAUGHNESSY. We have the titles and deeds to all this property, and can assure you that the figures are correct.

The CHAIRMAN. At this point, please give us statements of the exact amount of land that the city owns, the exact amount of Government land that will be flooded, the exact amount of land that you propose to convey to the Federal Government after you have used it for construction purposes and retained a sufficient amount for power sites, so we can get at the facts.

Mr. O'SHAUGHNESSY. Yes, sir.

(Said statement follows:)

HETCH HETCHY RESERVOIR.

	Acres.
Total area of reservoir.....	1, 930
Total area of city lands.....	720
Area of city lands submerged.....	600
Area of city lands not submerged.....	120

LAKE ELEANOR RESERVOIR.

Total area of reservoir.....	1, 443
Total area of city lands.....	920. 33
Area of city lands submerged.....	700
Area of city lands not submerged.....	220. 33

Lands city can surrender in Hetch Hetchy Reservoir.....	120
Lands city can surrender in Lake Eleanor.....	220. 33
Till Till Valley.....	160
Cherry Valley lands (except portion reserved for power house).....	960
Isolated lands.....	486. 13
	<hr/> 1, 946. 46

Area of Government lands submerged, Hetch Hetchy.....	1, 330
Area of Government lands submerged, Eleanor.....	743
Area of Government lands needed for stations.....	100

2, 173

Area and capacity of reservoirs.

Hetch Hetchy.			Eleanor.		
Dam height in feet.	Area in acres.	Capacity 1,000 acre-feet.	Dam height in feet.	Area in acres.	Capacity 1,000 acre-feet.
20	0	0	0	527	0
50	680	14	25	1,014	21
100	920	55	40	1,125	39
150	1,110	105	50	1,184	49
200	1,490	170	75	1,295	80
250	1,730	252	100	1,369	113
300	1,930	345	125	1,406	147
			150	1,443	288

LANDS OWNED BY CITY OF SAN FRANCISCO IN YOSEMITE NATIONAL PARK.

	Sections.	M. D. B. and M.	Acres.
Hetch Hetchy lands:			
Till Till Valley.....	5, 6	T. 1 N., R. 21 E...	160.00
Hetch Hetchy Reservoir.....	9, 10, 11, 16	T. 1 N., R. 20 E...	720.00
Canyon Ranch.....	32	do.....	160.00
Total.....			1,040.00
Lake Eleanor lands:			
Fractional portion.....	36	T. 2 N., R. 19 E...	586.69
Do.....	35	do.....	133.64
Do.....	34	do.....	290.00
Total.....			920.33
Grand total.....			1,960.33

LANDS OWNED BY CITY OF SAN FRANCISCO IN STANISLAUS NATIONAL FOREST.

Cherry Valley lands.....	{ 20, 29, 28 16	T. 2 N., R. 19 E...	320.00 640.00
Total.....			960.00
Isolated ownerships:			
Hog Ranch or Portulacoco.....	1, 2	T. 1 S., R. 19 E...	322.45
Ike Dye Place.....	7	do.....	163.68
			486.13
Grand total.....			1,446.13

Mr. CHURCH. The land that you have on the outside that you propose after a while to transfer to the Government contains timber of the same kind as the forest running the whole length of the State of California?

Mr. O'SHAUGHNESSY. Just the same kind.

Mr. CHURCH. You have none of the big redwood trees, the beautiful trees that some of us have heard of and never seen, on that land?

Mr. O'SHAUGHNESSY. We have no big trees.

Mr. CHURCH. It is a common forest?

Mr. O'SHAUGHNESSY. An ordinary forest.

Mr. CHURCH. That runs through the entire States of California, Oregon, and Washington?

Mr. O'SHAUGHNESSY. The forest belt is about 900 miles long.

Mr. CHURCH. And how wide?

Mr. O'SHAUGHNESSY. And about 30 miles wide.

Mr. GRAHAM. What variety of trees are in the forest?

Mr. O'SHAUGHNESSY. All kinds of pines, oaks on the lower level, and spruce.

Mr. DECKER. What do you call a large tree?

Mr. O'SHAUGHNESSY. Thirty feet in diameter.

Mr. DECKER. What size trees on the land that we will get in return?

Mr. O'SHAUGHNESSY. Two and one-half or three feet.

I would like to say one thing in conclusion in regard to the scenic features. I may be accused of being a nature lover, because I have sincerely practiced it all my life. I have lived in the trees all my life, and it is only the last year, since I became a municipal officer, that I have lived in a city. I have planted a lot of trees and a lot of forests, and I think I can realize what the result of this lake is going to be in Hetch Hetchy Valley. I have just completed a similar reservoir in San Diego County, in the southern part of California, near the Mexican line, and what was ordinary, very tame, and uninteresting scenery before the construction of the dam is now one of the picturesque lakes which all tourists and visitors go out of their way to see. I am satisfied in my own mind that the construction of this dam will beautify this scenery to a degree even much more than anyone can estimate.

Mr. GRAHAM. When the dam is built and the water is up to its highest level will there still be some portion of the floor of the valley for tourists where they can travel to enjoy this scenery?

Mr. O'SHAUGHNESSY. Not on the floor, Mr. Graham. There will always be water over the floor because the policy of conservation and the policy of storage will always demand that a certain volume of water, as an element of prudence, be held in reserve to take care of dry periods of shortage in the reservoir, and the floor of the reservoir will never be unsightly or exposed.

Mr. GRAHAM. Will it be necessary for tourists to go out on the lake in boats in order to see and admire the scenery?

Mr. O'SHAUGHNESSY. No, sir; there is provision made in the act by which a road and trail shall be built on the north side of the lake from which observation can be made of all the attractive features and scenery in the mountains surrounding it.

Mr. GRAHAM. The road, of course, would be located especially with a view to exposing the scenery and beauty of the place?

Mr. O'SHAUGHNESSY. It would. In this connection, I will say that there is a gentleman here in the Government service, Mr. Marshall, in the United States Geological Survey, who made the map that you see, the Government map, who has made a special study of this project, and I have been in touch with that gentleman and his views and suggestions, and I can safely pledge the city that whatever line of development these people choose for the expenditure of this money for the roads and trails, we will be glad to comply with; we will also be glad to modify our plans to meet the desires of any of those people, of course, subject to the approval of the department.

The CHAIRMAN. Have you finished your statement?

Mr. O'SHAUGHNESSY. Yes, sir.

The CHAIRMAN. You heard the testimony of Col. Biddle yesterday?

Mr. O'SHAUGHNESSY. Yes, sir; I did.

The CHAIRMAN. Did you hear him say that, in his judgment, there were four distinct supplies other than Hetch Hetchy from which San Francisco could receive an adequate water supply and one of good quality?

Mr. O'SHAUGHNESSY. Yes, sir.

The CHAIRMAN. What have you to say as to that?

Mr. O'SHAUGHNESSY. I would say that none of them is comparable to the Hetch Hetchy source.

The CHAIRMAN. Tell us about McCloud River, what kind of a supply that would be, first, as to quality; also would it furnish a sufficient quantity?

Mr. O'SHAUGHNESSY. At the present time the low water flow comes down to about 800 second-feet in the summer, and there are irrigation obligations now which take all that water.

The CHAIRMAN. Is there any way of getting 400,000,000 gallons daily above the demands made by the irrigation people?

Mr. O'SHAUGHNESSY. Yes, sir; but the expense would be entirely beyond the capacity of the city, and the distance from the city is also very great. You might as well talk about taking water from Lake Erie or Lake Superior for a water supply to the city of New York.

The CHAIRMAN. How far is McCloud from the city of San Francisco?

Mr. O'SHAUGHNESSY. By the line of the conduits the distance will be considerably over 250 miles.

The CHAIRMAN. How far do you have to go in order to reach Hetch Hetchy?

Mr. O'SHAUGHNESSY. One hundred and sixty miles.

The CHAIRMAN. Your idea is that the distance will make it prohibitive?

Mr. O'SHAUGHNESSY. The distance will make it prohibitive, and also we would have to begin our policy anew. We adopted the policy, after exhaustive engineering studies, some eight years ago of acquiring properties in the Tuolumne watershed, and we have spent now very nearly \$1,700,000 in acquiring our rights in this country, all of which would be confiscated if we abandoned this source, and we would have to start anew and acquire rights in this remote region—and it is very remote—and that would be so expensive that it would not be within the capacity of the city to utilize it.

The CHAIRMAN. It is contended here by different ones, and especially those who want to preserve the park, that the Sacramento River is suitable as a proper source from which to get a water supply. What have you to say about that?

Mr. O'SHAUGHNESSY. That source was investigated extensively and condemned by Mr. Grunsky as long as 12 years ago, and he was possibly a year and a half in investigating that and all of the other sources. And the point of intake suggested is about 30 miles below the city of Sacramento, and all the sewage and filth of Sacramento and the other cities above the diversion point are discharged into that river, and there would be considerable objection by the people, even with filtration, to the use of that water. I myself would not like to recommend it.

The CHAIRMAN. Could not that be met by filtration?

Mr. O'SHAUGHNESSY. Well, there are two objections. There would be the constant expense of filtration and also the added expense of continuous pumping.

The CHAIRMAN. There is no dam site at this proposed supply at all?

Mr. O'SHAUGHNESSY. No; it is merely an estuary of the river. You might as well with equal reason ask New York City to go to the Hudson River, 40 miles above New York, and take the Hudson River water and filter it. But neither New York City nor any other big city has ever seen fit to take an objectionable character of water when it can get something better.

The CHAIRMAN. Where would you have to take the water from the Sacramento River in order to get above the salt phase of it? How far would that be from San Francisco?

Mr. O'SHAUGHNESSY. In an air line possibly 50 miles, but by the route that a safe conduit would have to take, possibly 100 miles.

The CHAIRMAN. Then you think the objection to that would be, first, the expense of pumping, second, the expense of filtration, and, third, the prejudice that would naturally arise in the city against the use of water that was not properly protected; is that it?

Mr. O'SHAUGHNESSY. And there is still a greater and further objection, and that is the exhaustion of this fresh water. The numerous irrigation projects that are now springing up in the Sacramento Valley will send salt water still higher up the estuary at certain seasons of the year. So that it would be a very questionable source to rely on.

The CHAIRMAN. The whole Sacramento River would not be taken up by irrigation, would it?

Mr. O'SHAUGHNESSY. Yes, sir. I think that every cubic foot of water that is available in the Sacramento River, inside of the next few years, will be put on the adjacent land.

The CHAIRMAN. I want to jump from that back to the Tuolumne River and the Hetch Hetchy Dam site. Have you ever made a careful estimate, or has anyone else, so that you are able to give it to us, of the exact area in the San Joaquin that could be irrigated; that is, feasible of irrigation?

Mr. O'SHAUGHNESSY. I believe about 6,000,000 acres.

The CHAIRMAN. You think 6,000,000 acres could ultimately be irrigated in the San Joaquin Valley?

Mr. O'SHAUGHNESSY. I believe so.

The CHAIRMAN. What are the other sources of water supply which would afford them irrigation other than the Tuolumne River?

Mr. O'SHAUGHNESSY. There are possibly 20 different rivers draining into the San Joaquin Valley besides the Tuolumne River. Immediately south is the Merced River, and I happen to be very intimate with that river, because before taking municipal employment I was consulting engineer for Mr. Crocker, who owns that supply and built a diverting dam across it. At the present time they only have a storage capacity, under that supply, of 3,700 acre-feet, one day's flow of the canal, and here is this immense Merced River that has been available for the San Joaquin Valley flowing to the sea for all of these years and it has never been fully utilized.

The CHAIRMAN. Would that be a pumping proposition, or is there a place high enough where it could be retained by a dam and used for irrigation purposes?

Mr. O'SHAUGHNESSY. Very fortunately there is a most excellent reservoir site immediately alongside of those districts, known as the Dry Creek reservoir site. I believe Mr. Dennett alluded to it yester-

day. That reservoir site has an elevation of 340 feet, and it has a storage capacity of 325,000 acre-feet.

The CHAIRMAN. Is the character of the rock foundation such as to make a dam feasible for irrigation?

Mr. O'SHAUGHNESSY. Everything is feasible there, and they have now purchased the lands embraced in that reservoir site and are going to build a dam there.

The CHAIRMAN. You mean the San Joaquin irrigation people have purchased lands?

Mr. O'SHAUGHNESSY. The Crocker people have, who own this water.

The CHAIRMAN. They are going to build a dam?

Mr. O'SHAUGHNESSY. Yes; and impound that water.

The CHAIRMAN. How many acres could be irrigated from that source if a dam were constructed to its highest capacity?

Mr. O'SHAUGHNESSY. Possibly 150,000 acres.

The CHAIRMAN. And how many other dams and water supplies, do you say, could be utilized for irrigation purposes?

Mr. O'SHAUGHNESSY. Going down the San Joaquin Valley, there are the Kings River, the Kern River, and quite a number of other rivers.

The CHAIRMAN. I want to read you a telegram and see whether you think that all this gentleman says is true. It says:

SCOTT FERRIS,

Chairman Lands Committee,

Care L. L. Dennett, Ebbitt Hotel, Washington, D. C.

God gave to San Francisco the Pacific Ocean; the rest of the world to the Standard Oil Co., but the waters of the Tuolumne River belong to Stanislaus County.

I wondered whether that was a pretty conservative estimate of what you people were thinking out there.

Mr. O'SHAUGHNESSY. Well, Mr. Chairman, you can see for yourself how far their practice conforms with their theories. Here is this immense reservoir site which has been lying idle for the past 25 years and they have never seen fit to use it.

The CHAIRMAN. What I was really trying to get at, in all seriousness, was whether San Francisco was seeking to take from the San Joaquin Valley its only source of water supply for irrigation purposes. I am glad personally to know that they have other sources of supply, because while the highest use to which water can be put is domestic use, still we do not wish to divest people of the chance of raising bread and meat for the rest of us.

Mr. CHURCH. Did you not overestimate the number of rivers that flow into the San Joaquin Valley?

Mr. O'SHAUGHNESSY. I believe I underestimated them.

Mr. CHURCH. You said there were 20. Will you name them?

Mr. O'SHAUGHNESSY. I will take a map of California and give you the names of those rivers. The Stanislaus, the Tuolumne, the Merced, the Kings River, the Kaweah River—

Mr. CHURCH (interposing). Is that a river?

Mr. O'SHAUGHNESSY. Oh, yes.

Mr. CHURCH. I used to swim in it when I was a boy, and I never knew it was a river.

Mr. O'SHAUGHNESSY. And I drank water out of it 27 years ago—the king's river.

Mr. CHURCH. You mentioned that before.

Mr. O'SHAUGHNESSY. The Kern River, the Tule River, and then there are a number of small rivers on the west side of the valley.

Mr. GATES. Have you not omitted the Fresno River?

Mr. DUNIGAN. And the Mokelumne and the San Joaquin.

Mr. CHURCH. In campaign times I have claimed that seven rivers flowed into my district, and if there were any more there I am sure I certainly would have mentioned them.

Mr. O'SHAUGHNESSY. Your conception of a river may be that of a stream which is very large, Mr. Church, but I have been in places where rivers used for irrigation purposes were never of the size which you seem to attach to a river. I know of a number of small rivers which were availed of for irrigation purposes by reason of the energy of the people living on their sheds.

The CHAIRMAN. How many rivers did you mention?

Mr. O'SHAUGHNESSY. Seven.

The CHAIRMAN. Did you name them all?

Mr. O'SHAUGHNESSY. The larger ones, although there are a number of smaller ones.

Mr. DUNIGAN. You did not mention the Mokelumne and San Joaquin Rivers.

Mr. GATES. Nor the Fresno River.

The CHAIRMAN. How many does that make?

Mr. O'SHAUGHNESSY. Ten. And then there is the Calaveras River and the Los Banos Creek.

Mr. CHURCH. Those are little streams that dry up before they reach the plains; just simply small streams which carry water down to the plains.

The CHAIRMAN. Can you put into the record at this point any estimate that would be worth anything to the committee as to what each one of these rivers would supply if properly impounded? Is that information available anywhere?

Mr. O'SHAUGHNESSY. I think very likely the Geological Survey could give it.

The CHAIRMAN. Could you get that information and furnish it to the reporter so it may go in the record?

Mr. O'SHAUGHNESSY. I think so.

Mr. DENNETT. I have it here, and I can give it to the committee from the report of the California Conservation Commission.

Mr. TAYLOR of Colorado. Where does this conservation commission get its information?

Mr. DENNETT. It is a commission appointed to act in conjunction with the representatives of the Federal Government in investigating the natural resources of the State of California.

Mr. TAYLOR of Colorado. Does their report correspond with the report of the Geological Survey?

Mr. DENNETT. Substantially; I have not compared the two reports in detail, but I am generally familiar with the reports of the Geological Survey.

The CHAIRMAN. Have you the information as to all of these streams?

Mr. DENNETT. Yes; it is in this report.

The CHAIRMAN. Will you furnish that information to the stenographer so it may go into the record?

Mr. DENNETT. I will do so.

(The following is the information supplied by Mr. Dennett:)

Table showing average discharge of rivers in the San Joaquin Valley, at edge of foothills, in acre-feet yearly.

[From Report of California Conservation Commission, 1912, p. 191, and annual reports of U. S. Geological Survey.]

Name of river.	Minimum.	Average discharge.
	<i>Year.</i>	<i>Acre-feet.</i>
Mokelumne.....	479,000	1,000,000
Calaveras.....	174,000	377,000
Stanislaus.....	389,000	1,400,000
Tuolumne.....	977,000	2,080,000
Merced.....	518,000	1,228,000
Bear.....		47,000
Mariposa.....		33,000
Chowchilla.....		110,000
Fresno.....		121,000
Upper San Joaquin.....	924,000	2,000,000
Kings.....	884,000	1,920,000
Kaweah.....	252,000	533,000
Tule.....	70,000	148,000
Kern.....	288,000	770,000
Caliente.....		138,000
Poso.....		92,000
White.....		29,000
Deer.....		35,000
Grand total annual discharge for 18 larger streams of valley.....		12,061,000

Mr. LONG. Mr. O'Shaughnessy, are there any subterranean waters on the west side of the San Joaquin Valley that may be available or are now being made available by pumping for irrigation purposes?

Mr. O'SHAUGHNESSY. There are. And there are also artesian belts in the neighborhood of Delano, in the southern part of the San Joaquin Valley.

Mr. LONG. And is it not a fact that at the present time there are large acreages being put on the market for subdivision purposes to be supplied with water from artesian belts on the west side of the San Joaquin Valley where the rainfall is light?

Mr. O'SHAUGHNESSY. Artesian water has been used for 20 years in the San Joaquin Valley.

Mr. LONG. But are they not at the present time preparing to use it in greater quantities and from a greater depth than heretofore?

Mr. O'SHAUGHNESSY. They are.

Mr. LONG. I wanted to call your attention to the fact, Mr. Chairman, that on the west side of the valley, which is a very dry section, they are now utilizing the subterranean waters and that they find it profitable to go to a depth of several hundred feet.

The CHAIRMAN. Of course, pumping is more expensive than a gravity system. That is usually so, is it not?

Mr. LONG. Yes; but throughout California one of the biggest uses to which power is put by the farmers is pumping for irrigation.

Mr. O'SHAUGHNESSY. In many cases they find it more economical to pump water with electric power at three-fourths of a cent per kilowatt hour than to irrigate by long ditches.

The CHAIRMAN. That might be so where they had cheap power.

Mr. GRAHAM. How about the constancy of the subterranean supply?

Mr. O'SHAUGHNESSY. Well, there will be some loss by the extension of irrigation, but the more land placed under gravity irrigation the more subsurface water there would be.

Mr. GRAHAM. There would be some assistance from that source, but the constant pumping would tend to reduce the subterranean supply and eventually, perhaps, exhaust it.

Mr. O'SHAUGHNESSY. Well, to my personal knowledge for 16 years on the Island of Oahu, in Hawaii, water has been pumped from a subterranean source and without depleting the supply.

Mr. GRAHAM. Well, while that is true in some sections it might not be true in others. In portions of Arizona the contrary appears to be the case—that the supply is diminishing after years of pumping.

Mr. O'SHAUGHNESSY. It depends altogether on the quantity of water that comes in each year to replenish the exhaustion caused by the pumping. If enough water comes in from some outside source to replenish the supply, then there is no permanent damage to the artesian source, but if there is not enough water coming in or not as much as taken out there is ultimately bound to be a shortage.

Mr. GRAHAM. Quite so, and that gets to the real point in this question. Is there any subterranean stream or source of supply in this valley that would make the supply of water constant?

Mr. O'SHAUGHNESSY. I do not think the geology of the under strata of the valley has been sufficiently studied to come to any conclusions on that, Mr. Graham.

Mr. SINNOTT. Has the water table been lowered by this pumping system?

Mr. O'SHAUGHNESSY. In the vicinity of San Francisco, where we are getting our supply at the present, the water table has been materially lowered. In the Livermore Valley it has been lowered over 60 feet, and it is a question as to how much more it can be lowered without permanently injuring property.

Mr. DENNETT. May I ask Mr. O'Shaughnessy whether he can tell me of one place on the west side where they are irrigating from artesian wells?

Mr. O'SHAUGHNESSY. The point Mr. Long asked me about, I think, was Patterson ranch, was it not?

Mr. LONG. I have forgotten the locality, but it is somewhere down on the west side.

Mr. CHURCH. There are one or two wells down by Delano.

Mr. O'SHAUGHNESSY. There have been wells there to my knowledge for over 21 years.

Mr. CHURCH. How many acres have been irrigated by those wells?

Mr. O'SHAUGHNESSY. And south of Tulare Lake there is quite a number of wells and farms are irrigated entirely from artesian water.

Mr. CHURCH. Is it your judgment that in the San Joaquin Valley, taken as a whole, there are over 5,000 acres of land irrigated by artesian wells? I do not mean surface water.

Mr. O'SHAUGHNESSY. I would say there were at least five times that many acres.

Mr. CHURCH. But you have no definite knowledge on that subject?

Mr. O'SHAUGHNESSY. Yes; I have.

Mr. CHURCH. Just give us those wells.

Mr. O'SHAUGHNESSY. I will give you the general location of them. Immediately southeast of Tulare Lake, and running south for about 15 miles, there is an area 6 or 8 miles wide.

Mr. CHURCH. How many wells are in that section, if you know?

Mr. O'SHAUGHNESSY. I think I have seen about 30 wells myself.

Mr. CHURCH. How long ago?

Mr. O'SHAUGHNESSY. Two years ago.

Mr. LONG. Is there not a section southeast of Bakersfield where there is artesian water and where they do not have to go to a depth of more than a couple of hundred feet in order to get sufficient water for irrigation purposes?

Mr. O'SHAUGHNESSY. I am not familiar with that section.

Mr. LONG. I know that there is such a section. I know they are irrigating there to-day and raising good crops of alfalfa. That section is about 10 miles southeast of Bakersfield.

Mr. LA FOLLETTE. Awhile ago, Mr. O'Shaughnessy, you said you believed that in 10 years the water of the Sacramento River would be used for irrigation purposes. It has been a good many years since I was boating down that river, but I am a little in doubt whether Uncle Sam would allow that, and I want to ask whether you meant the flood waters of the Sacramento River or that all of the water in the Sacramento River would be used for irrigation purposes within 10 years?

Mr. O'SHAUGHNESSY. What I meant to convey was that as the years go on more water is going to be withdrawn for irrigation purposes, more fresh water, and that as more fresh water is withdrawn the salt water from the bay is going to press upward toward Sacramento. At the present time, in the middle of the winter, when the heavy rains come, and the river is in flood, the water is fresh as far as Port Costa. Later on in the year, as the volume of fresh water diminishes, the sea water presses higher up and my suggestion was that in future years, with the further withdrawal of every drop of fresh water the salt influence will eventually go as far as Sacramento, and that if we should have a pumping station located 30 miles west of Sacramento it would be a lost investment.

Mr. LA FOLLETTE. What I understood you to say was that all of the water of the Sacramento River would eventually be used for irrigation purposes, and I wanted to understand just what you meant.

Mr. O'SHAUGHNESSY. I qualified that by saying all available water.

Mr. JOHNSON. What is the elevation of Sacramento?

Mr. O'SHAUGHNESSY. It is just about sea level, and the tidal influences are felt at Sacramento.

Mr. WHITMAN. I understood from Mr. Long that the city, in connection with the Spring Valley Water Co., is about to develop some other sources of water supply. Can you tell us what they are and what they will furnish?

Mr. O'SHAUGHNESSY. The Spring Valley Water Co. has promised to start in at once with the construction of Calaveras Dam. If the water conditions are propitious, there may be water to fill that dam, but if there is not it may be empty like some of its present reservoirs now are.

Mr. RAKER. I desire to ask the witness a few questions. Mr. O'Shaughnessy, the report made by the engineers speaks of the building of a railroad along the highway, in conjunction with the construc-

tion of the dam, on which to haul materials. Have you a plat which would show the committee approximately where that railroad would start and where it would end?

Mr. O'SHAUGHNESSY. That has not been definitely determined, because that would depend upon the conclusion as to this bill and which dam the city shall first build.

Mr. RAKER. Assuming that the bill is passed as drafted, give the committee that information.

Mr. O'SHAUGHNESSY. Such a railway would follow substantially along the route of the present county road from Priest Hill, up the ridge, by Groveland, and in toward Hetch Hetchy.

Mr. RAKER. Where would you commence the railroad in the valley and where would you connect?

Mr. O'SHAUGHNESSY. At the Hetch Hetchy Dam site.

Mr. RAKER. But, as a matter of fact, the whole proposition has not been definitely studied and determined.

Mr. O'SHAUGHNESSY. Mr. Freeman made some reconnoissance of it last year and suggested starting at a point called Rosasco.

Mr. RAKER. And that would carry it right on into the Hetch Hetchy Dam?

Mr. O'SHAUGHNESSY. Yes, sir.

Mr. RAKER. Do you think that is practicable?

Mr. O'SHAUGHNESSY. I think it is entirely feasible.

Mr. RAKER. And that would be in connection with the building of a road? In other words, the road would be built wide enough to permit vehicles to pass on the one side, with the railroad on the other.

Mr. O'SHAUGHNESSY. There is a very good wagon road there at the present time, and the city has contributed money to improve that road.

Mr. RAKER. I am taking it in conjunction with the proposals of the report.

Mr. O'SHAUGHNESSY. The intention is to convert this railroad into a very first-class wagon road, to pull up the tracks and ties, leaving a first-class wagon road, as soon as the functions of the railroad are over.

Mr. RAKER. What I was getting at was the grade of the railroad.

Mr. O'SHAUGHNESSY. Well, the grade will be at least 4 per cent; that is, the maximum grade, with easy curves. It will be a rough, cheap, mountain railway sufficient to haul cement in for construction work, as well as other supplies.

Mr. RAKER. There is no idea of making it a permanent railroad.

Mr. O'SHAUGHNESSY. I do not think it would be a desirable investment to have a railway into that park as a permanent proposition.

Mr. RAKER. And why?

Mr. O'SHAUGHNESSY. Well, because for eight months of the year not a soul ever goes into that watershed, and in the wintertime there are $4\frac{1}{2}$ or 5 feet of snow all over that watershed. Even the birds and animals get out of it. So the only business would be for three or four months in the summer.

Mr. RAKER. Let us see about that. From the point of contact with the railroad below and up to and beyond Groveland the district is inhabited the year around?

Mr. O'SHAUGHNESSY. There are a few mining towns in there.

Mr. RAKER. It is inhabited, and it is quite an orange and grape country and produces all of the vegetation that can be raised in California.

Mr. O'SHAUGHNESSY. I will concede your statement, but the function of the city is to confine itself, as far as possible, to a municipal water supply.

Mr. RAKER. I am not talking about the function of the city but am talking about the ultimate results from the expenditure of this money, and I want to find out whether or not the property should be destroyed after once being placed there or whether it would be the function of the Government to continue it?

Mr. O'SHAUGHNESSY. Well, the intention of the city so far has been to build a railway for construction purposes only.

Mr. RAKER. I appreciate that fact.

Mr. O'SHAUGHNESSY. And as soon as the construction was completed the tracks and ties would be pulled up, removed from the scenery, and the railroad bed converted into a first-class wagon road.

Mr. RAKER. Well, now, let us see. From the junction of the present railroad, where you would join it to Priest Hill, what would be the length of that stretch of road?

Mr. O'SHAUGHNESSY. Have you that report there?

Mr. RAKER. I have the report here; yes. In connection with the future use of that territory by the Government itself, that does not affect this question at all. It is a question of whether the Government will continue.

Mr. LONG. No, sir. I was afraid of bringing into the hearing so many side issues——

Mr. RAKER (interposing). No, sir; we will not lose sight of the main question.

Mr. O'SHAUGHNESSY. I find that in Mr. Freeman's report, on page 15.

Mr. RAKER. You have nothing in addition to that, except what Mr. Freeman shows?

Mr. O'SHAUGHNESSY. No, sir; nothing in addition. In fact, I was going to study this proposition from the ground up, as all my life I have been doing engineering work in mountain countries. For instance, there are several conditions contained in the Freeman report which have not been offered in this bill. One is the right to give irrigationists any water——

Mr. RAKER (interposing). I would like to confine myself right down to this one thing, and then we will take up any other matter. This is a matter that affects the people in that part of the country; it is a matter they are interested in, and of course it is a Government matter. If they desire to appraise the value of it and buy it for the benefit of the park and national forests, it is a question of economy that this committee should not pass over. The people of my district will not permit this thing to pass without a hearing by the committee. It is in the report, and I want the committee to thoroughly understand it. You have not given any estimate of that so that the committee would have anything definite to work on.

Mr. O'SHAUGHNESSY. No, sir.

Mr. RAKER. There would be no objection if a railroad grade was made that could be brought up to the condition of a railroad bed and

equipped with rails, that could be changed if the Government saw fit later to appraise the expenditure of the city—a railroad that it could take over and maintain through the park and the reservation?

Mr. O'SHAUGHNESSY. No objection whatever.

Mr. RAKER. In regard to the roads, Mr. Freeman has made a full report upon that question, and a great many have seen it. You do not desire to change the general outline of the Freeman report?

Mr. O'SHAUGHNESSY. I do.

Mr. RAKER. What is it?

Mr. O'SHAUGHNESSY. Our outline is contained in the bill. After our 10 days' session with Secretary Fisher last November, and a discussion with the parties interested in preserving the park as to the character of the roads and the extent of the roads we should make, we have conformed to their requirements in the different clauses contained in this bill.

Mr. RAKER. The public is to be considered in the utilization of the park, and from the report of Mr. Freeman there has been no change made in the matter of the building of the roads. Now, the building of the roads is feasible as specified in Freeman's report, are they not?

Mr. O'SHAUGHNESSY. I believe that one of his roads is not feasible.

Mr. RAKER. Which one?

Mr. O'SHAUGHNESSY. The one on the south side of the lake.

Mr. RAKER. Why?

Mr. O'SHAUGHNESSY. Because it is a vertical bluff there, and it would be next to suicide to go over such a road. The precipice there is 400 or 500 feet high, and I have condemned that plan and the department does not want it.

Mr. RAKER. How much distance would a road of that kind traverse?

Mr. O'SHAUGHNESSY. That would be about one-half the length of the lake.

Mr. RAKER. What would be the expense of building that road?

Mr. O'SHAUGHNESSY. It would cost a fortune.

Mr. RAKER. Approximately how much?

Mr. O'SHAUGHNESSY. I believe it would cost a half a million dollars to make that piece of road.

Mr. SINNOTT. Is that road pictured here as a proposed road?

Mr. RAKER. It is pictured on page 6, and I think there is another place on page 10.

Mr. O'SHAUGHNESSY. Here on page 6 is the road on the south side. About one-half of that it is proposed to discontinue, as the people who desire to preserve the park requested that we omit a part of that road, and there is a qualifying clause put in this bill that this road shall be built so far as directed by the Secretary of the Interior. We submit ourselves entirely to his direction and discretion as to the character of these improvements.

Mr. RAKER. Of course, this is the first time that I have understood that there would be any variation from the Freeman report upon that question, and it means a great deal to the interest of the people. I did not suppose that there was any question of a change in the roads around the lake.

Mr. SINNOTT. On page 16 there is a picture of a proposed road. Will that be left?

Mr. LONG. This plan in the report shows the position of this section. Now, the walls of the Hetch Hetchy Valley are almost straight up and down, especially on the south side, and to make a road in there you would have to carve it out. On the other side there is a natural shelf for quite a distance, and at one point the width is 200 or 300 feet. As I say, there is a natural shelf there that would permit the construction of a road, whereas on the south side of the valley it would be almost impossible. Mr. Freeman's plan was simply to show that this was possible if the Government desired it. Now, the Government does not desire it; at least one branch of the Government does not desire it, and that is the department that has it directly in charge. They feel that this would detract from rather than add to the beauty of the park, and for that reason and at their suggestion we have eliminated this road.

Mr. WHITMAN. I understood you to say, a moment ago, that the changes in these roads were consented to by some of the persons who were opposing the grant. Will you be kind enough to give us the names of those people; who were they?

Mr. O'SHAUGHNESSY. Mr. Marshall was one. I think Mr. Marshall has been actively associated with you.

Mr. WHITMAN. He is a Government official, is he not?

Mr. O'SHAUGHNESSY. But his connection with the Government does not prevent him from entertaining a private opinion in regard to this project.

Mr. RAKER. How far would the road on the south go, as proposed, Mr. O'Shaughnessy?

Mr. O'SHAUGHNESSY. Commencing at the dam—about 2 miles.

Mr. RAKER. Does it end there, without going on to the head of the reservoir?

Mr. O'SHAUGHNESSY. From that point on a trail would be made; but we are quite prepared to make a road the whole length on the north side of the lake if it is thought desirable.

Mr. RAKER. The people were absolutely satisfied as to the roads; and, now, if there is any question as to these roads not going clear around it, I shall not permit myself to be placed in that position. I should like to have the record show the length of the proposed road from the dam, if you can delineate it on the map.

Mr. O'SHAUGHNESSY. It is approximately about 2 miles.

Mr. RAKER. Then that would not carry the road to the west side of the lake clear up to the upper end of it?

Mr. O'SHAUGHNESSY. But, as I say, the building is optional with the Government; and if the Government should require us to make the road all the way on the north side of the lake, that is provided for in the bill.

Mr. RAKER. Would that carry it clear to the upper end?

Mr. O'SHAUGHNESSY. Clear to the upper end of the lake.

Mr. RAKER. And how about the road from the upper end, where you would cross the flowing stream, before it enters the reservoir on the other side of the lake? No provision, as I understand it, is made for that. That is easy to be done, is it not?

Mr. O'SHAUGHNESSY. Do you mean right across the dam?

Mr. RAKER. No, sir; you go on the west side—2 miles—

Mr. O'SHAUGHNESSY (interposing). The lake practically lies east and west, and the road I am referring to is on the north side.

Mr. RAKER. On the north side, clear to the head of the reservoir?

Mr. O'SHAUGHNESSY. We have a road on the north side. We could build a road from it over to Lake Eleanor.

Mr. RAKER. That is feasible?

Mr. O'SHAUGHNESSY. Yes, sir.

Mr. RAKER. And that will open up that much more territory for the people to go in and see?

Mr. O'SHAUGHNESSY. Yes, sir; and then we make trails from these roads to these various little valleys to be used by campers.

Mr. RAKER. But you have not made any examination as to the location of the road on the south side nor the cost so that you could with any degree of certainty give it to the committee?

Mr. O'SHAUGHNESSY. I was in the valley last September, and, as stated, after viewing the conditions there I came to my conclusions on the subject—that is, that it was a most undesirable and unnecessary construction.

Mr. RAKER. On account of the expense?

Mr. O'SHAUGHNESSY. It would be an economic waste.

Mr. RAKER. Now, suppose the south side was left out, would the rest of the country be as accessible by continuing the road clear through on to the north side?

Mr. O'SHAUGHNESSY. Just as accessible.

Mr. RAKER. And you think there can be no question raised?

Mr. O'SHAUGHNESSY. No, sir; I do not believe that a single question can be raised.

Mr. RAKER. I understand that practically all of the water, both the natural flow and that which comes from the dam down to the La Grange Dam, where the Turlock and Modesto people take out theirs, is not used at the present time for much purpose, except for a few people along those streams and a few ranches and some little power plants?

Mr. O'SHAUGHNESSY. That is correct.

Mr. RAKER. That is about the situation?

Mr. O'SHAUGHNESSY. Yes, sir.

Mr. RAKER. There is no provision in the bill now that would prevent the city and county from using the entire flow of the Tuolumne River either at low or high stage, as well as the water impounded above the La Grange Dam?

Mr. O'SHAUGHNESSY. Yes, sir. There is a provision in the bill that we must always release 2,350 second-feet of water whenever that quantity of water is flowing in the stream.

Mr. RAKER. Provided it reaches the La Grange Dam?

Mr. O'SHAUGHNESSY. So that that quantity will reach the La Grange Dam.

Mr. RAKER. Then, it would not be material—in other words, the Turlock and Modesto people would have no objection so long as that water reached the La Grange Dam, and it is immaterial to them how it gets there?

Mr. O'SHAUGHNESSY. Yes, sir.

Mr. RAKER. You understand that there is no provision in the bill that would prevent the city and county of San Francisco from dispos-

ing of water or electric energy to the people in these communities, if they are municipal communities or irrigation districts, between the La Grange Dam and the Hetch Hetchy Dam?

Mr. O'SHAUGHNESSY. Do you mean that there is no provision in the bill?

Mr. RAKER. In other words, the city and county of San Francisco could dispose of both electric power and water, if there is a surplus, to supply that territory if they so desire?

Mr. O'SHAUGHNESSY. Yes, sir.

Mr. BROWN. On page 34 of the engineer's report, I would like to read five lines of paragraph 4, as follows:

The only definite figures for water rights before the board are the 2,350 cubic feet per second for the Turlock-Modesto irrigation district, reserved in the Garfield permit, when there is that much water flowing in the river, and 60 cubic feet per second used by the La Grange Water & Power Co.

Will you tell the committee why no reference is made to this 60 cubic feet per second in this bill?

Mr. O'SHAUGHNESSY. Because their rights are so secure as to the 50 cubic feet per second that nobody in the irrigation districts could interfere with them. They are a priority.

Mr. BROWN. They are prior to the irrigation districts' rights?

Mr. O'SHAUGHNESSY. That right is prior to the rights of the district. That right is over 40 years old, and is secured under the California law. We can not interfere with their rights.

Mr. BROWN. And you did not think it necessary to put that in the bill. In fact, you had to take into consideration the laws of the State of California in that connection?

Mr. O'SHAUGHNESSY. It can be inserted if necessary. We have no objection to it, but it was so patent that we did not think of it.

Mr. BROWN. This map [indicating] was introduced by you as an exhibit in this hearing, was it not?

Judge FULKERTH. I would like to say in that connection that the Turlock and Modesto districts would not like to be placed in the position of recognizing that amount as the correct one. These districts do not admit that that is the exact amount of water to which the La Grange Power & Water Co. is entitled. I do not think that there is anything that Congress could do in that connection, as those rights, whatever they are, exist under the State law.

Mr. BROWN. I asked the question because it is referred to in the engineer's report, and anybody reading the bill would wonder what became of that priority.

Mr. O'SHAUGHNESSY. It is computed that the water priorities in the river amount to 2,410 second-feet.

Mr. BROWN. When you introduced this map you only used it to show the flow of water in the Tuolumne River, and you did not refer to any of these subdivisions?

Mr. O'SHAUGHNESSY. No, sir.

Mr. BROWN. If you do not want to refer to the subdivisions, it is immaterial; but if you do, I want to ask you something. Do you expect to use these?

Mr. O'SHAUGHNESSY. No, sir; we do not expect to use them.

Mr. BROWN. This map was used before Secretary Fisher, as I understand it?

Mr. O'SHAUGHNESSY. Yes, sir.

Mr. BROWN. You showed him this green part, indicating the quantity in acre-feet required by the irrigation districts and the other quantity in acre-feet required by the city of San Francisco?

Mr. O'SHAUGHNESSY. Yes, sir.

Mr. BROWN. In the hearings before Secretary Fisher, I assume the needs of the irrigation districts were put at the amount stated in the bill and the needs of San Francisco were stated as 400,000,000 gallons daily?

Mr. O'SHAUGHNESSY. Yes, sir.

Mr. BROWN. If these facts are true, is the proportion correctly shown on this diagram? I am not familiar with the diagram. The needs of the district have been stated, and you say that 2,350 second-feet would be equivalent to four times 400,000,000 gallons?

Mr. O'SHAUGHNESSY. Your question is correct and your conclusion is correct on your statement of facts; that is, if the flow of water was continually 2,350 second-feet; but you can see from this diagram that for many months in the year the flow varies and is considerably less than 2,350 cubic feet, and the irrigationists could not get 2,350 cubic feet during those periods of low flow. So, on that account, their proportion is relatively smaller.

Mr. BROWN. This is taking all of the flow that you actually get?

Mr. O'SHAUGHNESSY. Yes, sir.

Mr. BROWN. And not the full amount they are entitled to?

Mr. O'SHAUGHNESSY. No, sir.

Mr. CHURCH. Quite a number of questions have been asked in reference to the construction of this bill and several opinions have been given. I suppose the bill ought to be, if it is not, drawn plainly enough to speak for itself. I do not know but that at some future time the construction of this bill may be determined by some other authority, and I want to say that, so far as the people I represent there in the district are concerned, while we may appreciate any construction or opinion that Mr. O'Shaughnessy or any one else may give in reference to it, yet we do not want to be bound by it, but only by the bill itself.

The CHAIRMAN. I will say, Mr. Church, that the committee itself will be the body to actually construe the meaning of the bill, and it is the intention of the committee, as soon as the hearing is over, or, at least, at a time that we shall fix, to go over the bill section by section and try to understand it ourselves. I think, however, that it is very important to get as much information on the matter as we can, and we are now seeking information for our consideration later.

STATEMENT OF HON. JOSEPH R. KNOWLAND, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA.

The CHAIRMAN. The committee will be glad for you to proceed at this time, Mr. Knowland.

Mr. KNOWLAND. Mr. Chairman and gentlemen of the committee, I will state that I represent the district directly across the bay from San Francisco, in Alameda County, which contained a population in 1910 of about 246,000 people. Bordering right upon the bay shore are three cities; the city of Berkeley, with a population in 1910 of 40,000; directly south of Berkeley and adjoining it is the city of Oakland, with a population in 1910 of 150,000; and south of Oakland and

adjoining that city and separated from it by part of Oakland Harbor, is the city of Alameda, with a population of 23,000. Those cities have had a remarkable growth. For instance, the city of Berkeley in 1900 had a population of only 13,000, while in 1910 that population had increased to 40,000; in 1900 Oakland had a population of a little over 60,000, which in 1910 had increased to over 150,000; Alameda in 1900 had a population of 16,000, and under the census of 1910 there was an increase to 23,000. So it can readily be appreciated that the cities on the east side of the bay, as well as the smaller towns, are growing very rapidly, and if the growth continues at the same ratio during the next decade we will have a very large population on that side of the bay.

The present water supply of the cities mentioned, as has been stated by Col. Biddle and City Attorney Long, is furnished from what is known as the Lake Chabot Reservoir, located within Alameda County, and artesian wells also located within that county. The present dry season has had a very material effect upon the water supply of Alameda County, and, as Col. Biddle stated yesterday, we are facing a rather serious problem as to a water supply for these cities. Under the State law, which has been touched upon by City Attorney Long, municipal water districts are allowed to be formed by a number of cities, and Oakland, Alameda, and Berkeley have taken steps to form such a metropolitan water district. I believe I can state without hesitation that the people of Alameda County, realizing the necessities of the future and the limits of the present water supply, are strongly in favor of Congress granting these rights to the city and county of San Francisco. I have here a copy of the bill, and I might say that at first glance there was a possible question in my mind as to whether the language, "such other municipalities or districts which may, with the consent of the city and county of San Francisco, or in accordance with the laws of the State of California, hereafter participate in the beneficial use of the rights and privileges granted by this act," did not leave the question of the participation of east bay cities entirely to the city and county of San Francisco, but I am informed in talking with City Attorney Long that the sentence, "or in accordance with the laws of the State of California," in view of the act providing for the formation of municipal water districts, will safeguard us, and that we would be able to participate without having it left solely to the city and county of San Francisco.

I think I can say in all frankness, however, that even if such was the case the city and county of San Francisco would be only too anxious and willing to allow the cities on that side of the bay to participate. As soon as this bill was printed I sent copies of it to the mayors of the cities of Alameda, Oakland, and Berkeley, with telegrams notifying them that these bills had been sent and requesting that as soon as they were received they go over the bill very carefully and send me a telegraphic report as to whether the wording met their approval.

Mr. TAYLOR of Colorado. Have you received any report from them?

Mr. KNOWLAND. I have not. The bills will not be received there until Monday. I have no doubt, however, but that the bill will meet with their approval. There may be possibly some suggestions that they desire to make. I understand that a former bill was presented

to them for their approval, and there has been only one slight change made. In the first bill you said, "and such municipalities on the Bay of San Francisco," and in the second bill you leave that out and say, "San Francisco and such other municipalities."

Mr. LONG. That was done at the suggestion of some members of the committee.

Mr. KNOWLAND. I think probably that was put in to take care of some other places.

STATEMENT OF HON. JAMES D. PHELAN, OF SAN FRANCISCO.

The CHAIRMAN. Mr. Phelan, please state what official connection you have had with the city of San Francisco.

Mr. PHELAN. I was mayor of San Francisco for five years, my term ending in 1902.

The CHAIRMAN. Are you connected with the administration in any way now?

Mr. PHELAN. No, sir; except as a member of this commission which has been sent to Washington, appointed by the mayor of San Francisco, to represent in part the city of San Francisco in this water investigation. I am also a library trustee, but the water investigation has nothing to do with books. The mayor asked me to appear because I am familiar with the needs of the city of San Francisco, where I was born and of which I have been ever since a resident, and because during my incumbency of the office of mayor the first filings were made on this Hetch Hetchy Valley and on the Tuolumne River. I have also participated in the several hearings which have been had on this subject. I realize that the committee has gone into all the questions at this hearing, and I do not wish to delay the committee a moment longer than is necessary, so I will only emphasize the fact that the needs of San Francisco are pressing and urgent. San Francisco is expanding with tremendous rapidity due to the development of the interior of California and to the prospect of the early opening of the canal and the building of the exposition, and already, notwithstanding the threat of a water famine, the outlying district, which never before was developed, is being cut up into suburban tracts.

A large number of our population has been lost to Oakland, Alameda, and Berkeley, by reason of the fact that we have never had adequate facilities either of transportation or of water supply to meet what would otherwise be a demand for residences on the peninsula. There are disadvantages in crossing the bay. So San Francisco, the chief Federal city on the Pacific coast, asks the Federal Government for assistance in this matter by grant and not by money. It has obligated itself to pay \$70,000,000 for a water supply. We have endeavored to satisfy the needs of the irrigationists in good faith, as well as the local water monopoly, and we come this year to Washington, I think, with the good will of those heretofore opposed, possibly with the exception of the gentlemen who are devoted to the preservation of the beauties of nature.

As Californians, we rather resent gentlemen from different parts of the country outside of California telling us that we are invading the beautiful natural resources of the State or in any way marring or detracting from them. We have a greater pride than they in the beauties of California, in the valleys, in the big trees, in the rivers,

and in the high mountains. We have the highest mountain in the United States in California, Mount Whitney, 15,000 feet above the sea, as we have the lowest land, in Death Valley, 300 feet below the sea. We have the highest tree known in the world, and the oldest tree. Its history goes back 2,000 years, I believe, judged by the internal evidences; as we have the youngest in the world, Luther Burbank's plumcot.

All of this is of tremendous pride, and even for a water supply we would not injure the great resources which have made our State the playground of the world. By constructing a dam at this very narrow gorge in the Hetch Hetchy Valley, about 700 feet across, we create, not a reservoir, but a lake, because Mr. Freeman, who has studied the situation in Manchester or Birmingham, where there is a similar case, has shown that by planting trees or vines over the dam, the idea of a dam, the appearance of a dam, is entirely lost; so, coming upon it, it will look like an emerald gem in the mountains; and one of the few things in which California is deficient, especially in the Sierras, is lakes, and in this way we will contribute, in a large measure, to the scenic grandeur and beauty of California. I suppose nature lovers, suspecting a dam there not made by the Creator, will think it of no value, in their estimation, but I submit, man can imitate the Creator—a worthy exemplar.

Mr. GRAHAM. In that they are mistaken by a dam site?

Mr. PHELAN. They are mistaken by a dam site, and after it is constructed, as somebody said, not wishing to be outdone in profanity, "It will be the damdest finest sight you ever saw."

I remember the story of John Hay's Little Breeches, which describes the old fellow, who, believing in nothing that was religious or good, and having been told, after his child recovered, that he had wandered away in the woods and must have been restored by the angels, said:

To restore the life of a little child and to bring him back to his own,
Is a darn sight better business than loafing 'round the throne.

To provide for the little children, men, and women of the 800,000 population who swarm the shores of San Francisco Bay is a matter of much greater importance than encouraging the few who, in solitary loneliness, will sit on the peak of the Sierras loafing around the throne of the God of nature and singing His praise. A benign father loves his children above all things. There is no comparison between the highest use of the water—the domestic supply—and the mere scenic value of the mountains. When you decide that affirmatively, as you must, and then, on top of that, that we are not detracting from the scenic value of the mountains, but enhancing it, I think there is nothing left to be said. That is all.

The CHAIRMAN. Are there any gentlemen here who wish to speak in opposition to the bill?

Mr. WHITMAN. I am one of them.

The CHAIRMAN. How many gentlemen are there in the city who expect to be heard in opposition to the bill?

Mr. WHITMAN. Mr. Dennett and myself, so far as I know.

The CHAIRMAN. Mr. Whitman and Mr. Dennett.

Mr. DENNETT. So far as I know. I know of no one else.

The CHAIRMAN. Are there others who will want to be heard?

Mr. NEEDHAM. I would like to have an opportunity to say a few words.

The CHAIRMAN. When would you gentlemen like to be heard?

Mr. WHITMAN. I would like to be heard at the convenience of the committee.

The CHAIRMAN. Then the committee will take a recess until 2.30 o'clock p. m. this afternoon, and if anyone present knows of any person who is opposed to the bill, please have them come here this afternoon, when we will afford them an opportunity to be heard.

(Thereupon the committee took a recess until 2.30 o'clock p. m.)

AFTER RECESS.

The hearing was resumed, pursuant to the taking of recess.

The CHAIRMAN. The committee will come to order. Mr. Whitman, I wish you would wait a few moments, as Congressman Nolan wishes to say a word or two on the San Francisco side of it.

STATEMENT OF HON. JOHN I. NOLAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA.

Mr. NOLAN. Mr. Chairman and members of the committee, I know that you have been very patient with the representatives of San Francisco, and especially those who are best fitted to present our case, and I am not going to take up very much of your time, but just to say a few words in relation to this matter, inasmuch as the district that I represent in San Francisco is the district that needs the water the most. I represent practically all of that district south of the Golden Gate Park, in San Francisco, and west of Van Ness Avenue my district takes in the main portion of the residential section of San Francisco. It is in that district that there is the greatest scarcity of water. The district has the greatest area of vacant property, and it will receive the benefit of whatever future development there is as far as residential districts are concerned. A large portion of Congressman Kahn's district, north of the park, also suffers seriously for the want of water.

I was a member of the board of supervisors during 1911, when the city settled with the Hall interests; that is, made the final payment of \$600,000 for the lands in the valley controlled by that interest. At that time, and whenever an appropriation came up before the finance committee of the board of supervisors, of which I was a member, we received a vigorous protest from a gentleman who has for years been offering property to San Francisco, namely, the Blue Lakes site. Mr. Sullivan at all times appeared before the committee and entered vigorous protest, claiming that the properties that he had were better properties for San Francisco to buy. I believe that matter has been taken care of in the report of the board of Army engineers, but I simply call that to your attention to show that the protest made by Mr. Sullivan is not a new one. He has always protested against any appropriation, whether it was for the purchase of lands or for the purpose of enabling the city engineer to conduct investigations as ordered by the department here at Washington, or whether it was an appropriation to enable the city and county attorneys to conduct investigations and negotiations for the settlement of this proposition.

Mr. KENT. Right there I should like to ask Mr. Nolan whether this Blue Lakes water proposition is not tributary to the San Joaquin Valley?

Mr. NOLAN. Well, I would prefer to leave that to Mr. O'Shaughnessy, who has investigated that question. I would not care to say a great deal about that, because I believe it has been well covered by the city engineer.

The chairman's secretary was kind enough to allow me to have copies of the telegrams sent to the committee, and you will notice that most of the telegrams are to the effect that they would like to have the matter go over until the regular session. The people of San Francisco are in need of water; it is an urgent proposition, and that is the reason why we want this bill passed, if possible, at this extra session. The people there are suffering for the want of water. There are sections in San Francisco that ought to be developed and people would like to settle on property, but when they go out to look over their own lands or to purchase a site the first thing that confronts them is the lack of water, and if they should go on and build it is impossible for them to secure water from the Spring Valley Water Co. at this time. That not only applies to a certain section of San Francisco, but there is a population of seven or eight thousand people in San Mateo County, right over the county line, who are really residents of San Francisco, you might say; they work in San Francisco and live in San Mateo County, and the Spring Valley Water Co. has not been able to supply them with water. If this bill should be passed and there should be any extension of the water system in San Francisco the people in that county would be benefited, because San Francisco would be glad to serve them. This is an urgent proposition.

The other day I telegraphed to the chairman of the water-rates committee of the board of supervisors, Mr. Gallagher, to whom all complaints are made, and before this committee finally considers this proposition and takes a vote on it I will be able to place before you his report as to the necessity of giving immediate relief and how many people in San Francisco are without water at the present time. It is the urgency of this matter that I want to call to the attention of the committee, and to show that the intent of all of these telegrams is to cause delay. I sincerely trust that this committee will see its way clear, with proper safeguards, to give to San Francisco the right to develop this Hetch Hetchy water supply. That is all I have to say.

The CHAIRMAN. Can there be any well-founded reason for these telegrams which say that we are taking snap judgment and acting too hastily?

Mr. NOLAN. Mr. Chairman, I do not see how that can be so after 12 years of investigations and after the investigation this committee has held. San Francisco has always shown a disposition to treat everybody right. Whenever it was possible to get together with anybody and settle differences satisfactorily to everybody, within reason, San Francisco has always shown a fair spirit, and I am satisfied that whatever takes place in the future, if Congress will grant the city this right, that she will always treat every interest that needs taking care of with the same fair-mindedness. The tele-

grams are mostly to the same effect, and I do not need to go into the question of the telegrams. We are getting them not alone in this matter, but in relation to every other matter that comes before Congress, and in some instances we might assume that they were inspired. But I call your particular attention to the fact that they are all asking for a delay until the next regular session.

Mr. CHURCH. They are in immediate need of water there, are they not?

Mr. NOLAN. They are.

Mr. CHURCH. And that is the reason why you think this relief ought to be granted?

Mr. NOLAN. Yes; why this bill ought to pass.

Mr. CHURCH. Do you not know it will take seven or eight years to get relief in this way and that you ought to seek some way in which to get speedier relief?

Mr. NOLAN. That is exactly the point. I am glad you asked the question. Under the bond issue for this proposition, if we secure the right to develop the Hetch Hetchy, it is not possible for individuals to go into court and enjoin us from spending that money in extensions in San Francisco that the Hetch Hetchy system will eventually run into, but if we attempt to spend that bond issue money to-day without the right to develop the Hetch Hetchy, they could go into court and enjoin us. With this obstacle cleared away, that bond money can be used. That is the crux of the whole thing.

Mr. RAKER. In addition to that, if the bill is passed and becomes a law you know what your rights are, and you will be able to commence at once upon that work?

Mr. NOLAN. Yes, sir.

Mr. RAKER. And every month or every six months that you are delayed retards you just that much in the completion of the work?

Mr. NOLAN. Yes; and also retards us from getting temporary relief, the spending of this money for temporary relief until such time as this project is developed.

Mr. RAKER. Now, as to the question of the objections. Might it not be said, without any successful contradiction, with the exception of changing the floor of the valley to a lake, that practically all of the objections that have heretofore been made have now been met and answered by the provisions of this bill, and arranged as to the real intent of those who desire to use it?

Mr. NOLAN. All of the principal objections, with the exception of those who object to the flooding of the floor of the valley or building of the dam have been met.

Mr. RAKER. I say, practically all of them?

Mr. NOLAN. Yes.

Mr. KENT. Mr. Church asked a question in which he insinuated that it would take eight years to get relief, but this morning the city engineer said it would take four years.

Mr. NOLAN. I thank you for your courtesy, Mr. Chairman.

The CHAIRMAN. We are very much obliged to you. Is there any reason why Mr. Whitman should not proceed now?

Mr. RAKER. None that I can see.

STATEMENT OF MR. EDMUND A. WHITMAN.

Mr. WHITMAN. Mr. Chairman and gentlemen of the committee, my name is Edmund A. Whitman; I reside in Cambridge and have been a practicing lawyer in Boston for 27 years. I might say that I represent the public of the United States except for the fact that I was reminded, by seeing Mr. Brandeis, of Boston, in the hall yesterday, that he came before the Committee on Ways and Means in a previous Congress and professed to represent the public of the United States on the matter of a reduction of tariff duties, and, as he told me, he was not only laughed out but actually put out of the room. I trust, however, that in view of the fact that I was born on the plains of Kansas, was raised south of the Mason and Dixon line, and now live in Massachusetts, that my sympathies may be regarded as cosmopolitan enough to say that I do represent the public of the United States. A little more definitely, I am president of and represent the Society for the Protection of National Parks, the eastern branch. I also represent, by telegraphic request, the western branch, composed of quite a number of citizens of California and in the West.

First, I want to speak of these telegrams to which they have been referring, and, so far as I am concerned, to resent the implication which has been conveyed that they have been inspired from peculiarly interested sources.

When the chairman asked last night if anyone could account for these telegrams coming from San Antonio, Tex., and other places I located that telegram at once, and on his showing it to me my suspicion was confirmed that that telegram came from a leading banker in San Antonio with whom I had spent a month in this park in 1909; the next telegram that he turned over came from a leading merchant in San Diego, Cal., with whom I had spent a month in this region in 1904, and with whose daughters I had spent a month in 1909. I resent also the action of Mr. Long last night when he was asked this question and the manner in which he gave the impression that he might tell something if he only wanted to. Mr. Long ought to know, from the time that he has lived in San Francisco, that these telegrams emanate from a body of gentlemen there who have for 10 years constantly fought this project from the highest motives, the leader of them being Mr. John Muir, who is one of the leading scientists of the United States and whose name is honored in every scientific circle in which he goes. Through his action and that of his associates there there has been a widespread public sentiment created throughout the entire United States by his communications, and intelligent communications to intelligent people. The magazines have taken this thing up. The Century, the Outlook, the World's Work, and others have all had illustrated articles. The daily papers, the New York Evening Post, the Boston Transcript, the Portland Oregonian, and others have had more than one editorial upon the subject. To quote from memory from a somewhat stinging editorial in one of the Los Angeles papers, the editorial writer said:

Of course, the people of San Francisco need water; the only trouble is that they are too stingy to pay for it.

Now, gentlemen, my first appearance before this committee was in 1909, when San Francisco, with its rushing propensities, had brought

here a somewhat similar bill, and the first news that I got of it was that the hearings were closed, and that the committee was substantially unanimous except as to the form of the bill, and that if I came on I could only be heard on the form of the bill. Nevertheless, two or three of us came on, and these widespread protests, which you have now received, then flooded in, and the chairman of the committee very kindly opened the hearing *de novo*, and as a result—even, as I say, after the committee had heard all of the statements and come to a conclusion—eight members of the committee dissented from a favorable report, being one within a majority, and, therefore, I have some hopes that with your attention this afternoon I may at least produce a similar impression.

This is the first time, in appearing before the House committee, before the committee in the Senate, or before the Secretary of the Interior, that I have appeared alone, and I feel the responsibility upon me, as I say, of representing so many people who are not now here. At the last hearing before Secretary Fisher there was another gentleman with me from Boston; there were three from New York; one from Chicago; one from Harrisburg, and the California people sent their representative clear across the country. At an earlier hearing they not only sent their representative but an engineer clear across the country to represent them, but I am now here alone.

The chairman has asked several very pertinent questions as to the amount of notice, whether we have had notice of these hearings. As early as the 22d of April, before this committee was appointed, I addressed a letter to the clerk of this committee, asking for a copy of the bill upon the Hetch Hetchy, which had been filed, and requested to be notified of any hearings. In reply he says, under date of April 24:

I have your letter of April 22, and am glad to inclose to you herewith a copy of H. R. 112 referred to therein—

which was Mr. Raker's original bill.

Mr. RAKER. Introduced at this session?

Mr. WHITMAN. Yes.

Mr. RAKER. There was a bill in the Sixty-second Congress?

Mr. WHITMAN. Yes.

The selection of appointees to the committee will, in all probability, not be made until after the tariff is out of the way, and it is doubtful if there will be any legislation considered at the special session which would come before the Public Lands Committee. Outside of the tariff and possibly currency reform, it is the opinion of many around the Capitol that no further legislation will be considered at this session. The committee shown at the top of this letterhead is the committee for the last session, and as above said, the committee for this session has not yet been formed. As per your request, I will enter your name as a request to be heard in connection with the bill referred to, should it come up this session.

I have asked Mr. Campbell, and he explains the matter by saying that no hearing has been called on Mr. Raker's bill, and therefore he omitted to send me notice in regard to this bill. But at about the same time I wrote to Representative Murray, of Boston, who was a member of this committee in the last session, and asked him to look out for me, and he replied in similar tenor, that so far as he could find out there would be no legislation taken up at this session of Congress other than the two important measures under discussion. My first intimation that there was anything in the wind at all was a telegram from my California friends, in the middle of last week,

urging me to send a telegram to the chairman. I then wrote again to Mr. Murray and received a letter, written by him last Saturday, to the effect that the chairman was then out of town, and that from the best information he could get there would be no action by the committee at this session. Then, Saturday afternoon I had a telegram from a friend in Washington that there was a hearing on Monday, which it was impossible for me to attend.

Mr. RAKER. Who was the gentleman who telegraphed you from California?

Mr. WHITMAN. I am not quite sure; I did not bring the telegram with me. It was either Mr. Bade or Mr. Colby.

Mr. RAKER. Mr. Colby is the secretary of the Sierra Club, of California?

Mr. WHITMAN. Yes, sir. I telegraphed to the chairman that I could not come, and about the same time that his telegram came announcing a hearing for Wednesday came this letter from Mr. Murray saying that there was no hearing. Now, gentlemen, if you in this committee think that those interested throughout the United States have had sufficient notice of this meeting, I have nothing further to say, but I think when you come to take that up with your interested constituents at home there may be some difference of opinion.

The CHAIRMAN. Just let me interrupt the proceedings right there to ask whether you think it is the duty of the committee to inform all of the 90,000,000 people by actual telegraphy who might have a general interest in this matter, personally and actually, of this hearing?

Mr. WHITMAN. I should not, but at least those who have requested to have notice.

The CHAIRMAN. Well, everyone who has requested it has had notice.

Mr. WHITMAN. Only 24 hours' notice. I was one who requested to have notice on April 22.

The CHAIRMAN. You explained about that, but I wired you. You got a telegram from me that there was to be a hearing.

Mr. WHITMAN. Yes.

Mr. KENT. I wish to say that I resent the idea of this witness talking about our constituents or our responsibilities to them. Those are matters for us to determine. I shall not tolerate the threat of what my constituents may say or do to me.

The CHAIRMAN. And it will be well to let the record show that the committees of Congress have never tried to give actual notice to the public on any bill so far as I am aware. It has never been the practice of this committee, or any other committee of Congress that I have ever heard of, to try to give actual notice on these matters. Matters that are pending before these committees are matters for the committees to determine and for those who have an interest in them to make their own claims and their own efforts to have a hearing. It is not the duty of the committee to wire or actually notify people to come here in any sense, and it has never been the practice at any time to so do, so far as I know, and I hope the gentleman who has been invited to come before the committee will not attempt to invoke a new practice, one that has never prevailed around the Capitol, with the idea of incriminating the committee in some way.

Mr. RAKER. You understood two weeks ago that the committee had met and decided to take up this bill, did you not?

Mr. WHITMAN. No, sir.

Mr. RAKER. Your people in California certainly did. For instance, Mr. Muir and Mr. Colby and others telegraphed here some weeks ago in regard to this bill. They had notice clear out in California, and I think I can safely say to you that the metropolitan papers and local papers throughout the district knew about this matter and really had this information many days ago.

Mr. WHITMAN. I think I have said all I care to say. As I said before, I appear at this hearing for the first time alone.

Mr. GRAHAM. If there were hundreds here in sympathy with you, could they add anything to the reasons which you yourself can give for your side of the case?

Mr. WHITMAN. That I can not answer, sir.

Mr. GRAHAM. It is some 10 years old and has been thrashed over repeatedly and a great deal of matter printed in connection with it, and I assume you are very familiar with the whole situation. Now, could there be any material reasons that you would not know about?

Mr. WHITMAN. Well, sir; when I have concluded perhaps you can determine that as well as I could determine it.

Mr. GRAHAM. I have never been out there and do not know the lay of the land, and, of course, you know pretty nearly all about it. But you are prepared, I take it, to give not only a summary but a complete statement of practically all the reasons that exist against the request of the San Francisco people.

Mr. WHITMAN. I intend to do the best I can, sir. There is another difficulty under which we are laboring at this time, and that is the attitude of the Secretary of the Interior. Mr. Lane, as is well known, was the attorney for the city who first brought this proposition to Washington, and he is very frank to say that he believed then that the city should have the Hetch Hetchy and that he believes so now. I am making no complaint; Mr. Lane is entitled to his opinion, but he is hardly in the position of an impartial protector of the rights of the public, and he does not claim to be and he frankly says so. I understand that when an application was made to him for the grant, he declined to take hold of the proposition and desired it to be brought before the committee. But I noticed that the people who came with him, the heads of departments, were not the same people who appeared before Secretary Fisher. The officials of the Forestry Service and of the Agricultural Department have little or no knowledge of this subject; it is outside of their field, and I think you will see that the statement which Secretary Houston made was frankly based on no knowledge on his part of the situation.

In the hearing before Secretary Fisher he had present with him substantially all of the time Mr. Marshall, the head geographer, who knows all about this region, and Mr. Leighton, of the Hydrographic Service, who could answer all questions as to the amount of rainfall and so forth, and when it came to the question of sanitation, Surg. Gen. Blue.

This brings us down to the question as to the need of haste on the part of the city of San Francisco. What is to be gained by rushing this bill through? That question has been put, and I should desire to answer it a little more at length than it has as yet been answered.

I have no doubt that the situation which is described in San Francisco rather understates than overstates the situation. There is a scarcity of water, but that, gentlemen, results not from the lack of water that can be had in the surrounding neighborhood, but from the lack of facilities to bring it to the city, because in this unfortunate controversy, which has gone on for a number of years between the Spring Valley Water Co. and the city, the Spring Valley Water Co. has never known whether some bill would go through Congress which would put them out of business altogether, or whether they would succeed in transferring their property to the city. Under those circumstances no business man ever spends a dollar in the extension of facilities when he does not know if he is going to get it back or not. And whole districts in San Francisco have been left without facilities, because the Spring Valley Co. could not agree with the city about spending money. I understand that they have now arranged to do that, and that they are to build a dam in the Calaveras Valley, across the bay from San Francisco, where a considerable portion of the water now comes from. That is their one hope of immediate relief. It will take at least four years to get a drop of water from the Hetch Hetchy, if they go there.

With the conditions which have been described; with the dry seasons which have happened this year and last, if they can not get water soon, God help them—this Congress can not—unless there is a sufficient rainfall during the next year. Their only hope is to build what they proposed to build, a dam in the Calaveras Valley. And how much water will that provide them? Mr. O'Shaughnessy an hour or two ago dodged that question very carefully. You do not know how much water that will bring you.

But, gentlemen, in the investigation before Secretary Fisher the Spring Valley people, feeling that they might be regarded as interested sources of information, employed Gen. H. M. Chittenden, a retired Army engineer of high reputation, to make an independent investigation of the amount of water which can be supplied from local sources; and I have here, and there is on file with the committee, I think, the report of Gen. Crittenden; and weight is added to it by the fact that he insisted on adding to it after that the statement that personally he was in favor of taking this Hetch Hetchy system. But his work was to report what water you could get in and about San Francisco, and his report states that with the building of the Calaveras Dam San Francisco will receive 57,000,000 gallons per day. The present supply is 40,000,000. With the new dam it will be more than double, so that you will receive, with the present supply and the new supply, 100,000,000 gallons a day for San Francisco.

Now, what population will that support? The Army engineers tell you that San Francisco is using 90,000,000 gallons per day. Mr. Freeman's estimate is 100,000,000 gallons a day. At the highest estimate 100,000,000 gallons of water supplies a million people, and they do not claim to have but half a million there.

So that the step which they are about to take, which is the only step which can immediately relieve them, will give them more than twice as much water as they are now using, and more than twice as much water as their population can use. What, therefore, is the haste? It must necessarily be some months before this dam can be built—possibly nine months to a year. It is a big dam, a tremendous dam, and in the meantime, if other votes are necessary for the city of San

San Francisco to avoid any injunction proceedings, there is ample time to get them.

In how much of a hurry does this bill purport to be? They ask you for the privilege of three years in which to file their plans here. They do not say they are going to work immediately; they want three years to file plans, because a reading of Mr. Freeman's report shows that before anything can be done in the way of turning a shovelful of earth most extensive surveys must still be made. It will take between two and three years to build this road up to the Hetch Hetchy Dam, and take at least two more years to build the dam when they get there.

Now, you are at a special session of Congress on three hot days in June to determine not any method of relieving this immediate demand which exists, but to determine what San Francisco shall get in the year 2000. That is the problem to-day, as I think I can bring out by going on a little further.

And what is Mr. Freeman's proposition with the water which San Francisco now has? He proposes to bring down 400,000,000 gallons of water a day from the Sierras and to throw away the present supply of the city of San Francisco. You heard Mr. O'Shaughnessy say this morning that they would empty the reservoirs now filled by the local supplies and fill them with the Spring Valley water. You have got, according to the report of the Army engineers, a local available supply of 133,000,000 gallons a day for San Francisco only. For the other bay cities, with San Francisco, the Army engineers tell you there is an available supply in the Coast Range Mountains of 233,000,000 gallons a day. That they mean to throw away. That is what they call "conservation," in order to tickle the public of San Francisco with the idea that they are taking the snow as it melts from the mountains and drawing it from their faucets in their kitchens.

The problem before you, gentlemen, needs no haste. Your files here in this committee are simply littered with bills filed by the city of San Francisco for the use of the Hetch Hetchy Valley which have never before emerged from the committee; never been reported.

Only once in the last 10 years has a bill been reported, and that was by a committee of the House, and by a vote of 9 to 8. In that same year, when they went over to the Senate, they were frankly told that they could get no report from the Senate. I think every year since then there has been a bill introduced, which they have never been willing to bring up, although on several occasions I have tried to get the city of San Francisco authorities to do so. In 1905, after Secretary Hitchcock finally refused their request, bills were presented, and they were never reported from either committee. This is not something new before this committee.

Mr. RAKER. Have you thought over the matter, that this is a new Congress, with a new Senate and a new President?

Mr. WHITMAN. That is quite true.

Mr. RAKER. And that some ideas have been so thoroughly embedded, to the effect that nobody should use water from the public domain, or use the public domain, that they felt that they did not have any chance; and now they see the light before them, and feel as if they ought to get to work when they have an opportunity?

Mr. WHITMAN. I tried to meet that question, sir. Now, our objection, as representing the public, is this—and it is a broad

objection—that when a territory has been devoted to a public playground by the Congress of the United States for the benefit of all the people, particularly a territory which has so many wonders of nature in it as has this Yosemite National Park, no part of it should be taken away from all the people to whom it belongs without good reason. That is as far as we go. And it is for the city of San Francisco to bear the burden of proof and show you gentlemen that they have such an overwhelming reason, such an overwhelming necessity, as justifies you in taking away for their benefit a part of the national park; the burden is on them.

Now, if I may speak personally as to my own qualifications to address you as one having any knowledge of the subject—as I must speak partly as a witness as well as an advocate—I may say that I spent a month in this Yosemite National Park, spending some days in the Hetch Hetchy Valley, and most of the time, in fact, practically the whole time I spent in this watershed in the year 1904. I went in there with a party of 150 people, at a cost to me and to each one of them, of \$40. We did that because we were content to live on what the gentleman opposite to me described as “beans and sowbelly.” We walked the entire distance of 175 or 200 miles, and we slept on the ground—and we enjoyed it. And instead of being strong men, which the gentleman opposite seems to think is necessary in order to get along on sowbelly and beans, two-thirds of those people were women, many of them California teachers, and the men were professors and professional men—some of them business men. And nobody was used up, and nobody was sick, and we all had a good time.

But I went there five years later, spending another month; and I think that time we had the luxury of a cookstove carried around on a mule's back; and it cost us \$5 more than before, or \$45 apiece. We had 175 people of the country with us; and the management of the club had to turn away applications, so anxious were people to go and camp in the park.

And there have been a great many people who have gone in similar parties through that reservation in the last few years, on trips engineered by the Sierra Club. And when this committee gets telegrams from all over the country they are very likely to be from persons who have been in some of those parties.

Mr. CHURCH. May I ask you one question?

Mr. WHITMAN. Certainly.

Mr. CHURCH. On the second trip how long did you stay in Hetch Hetchy?

Mr. WHITMAN. Three days; nearly four days.

Mr. GRAHAM. What is the summer temperature there?

Mr. WHITMAN. The summer temperature in the middle of the day is warm. At the time I was there in July the nights were cool; the mornings and evenings were cool. The summer temperature all through there is hot in the middle of the day, except in the highest places. The Yosemite Valley itself is hot in the middle of the day.

Mr. GRAHAM. Now, Mr. Whitman, in what way would the carrying out of the proposed plan interfere with parties going through there, such as you have described?

Mr. WHITMAN. With your permission, sir, I will delay the answer to that question, but I mean to take it up fully a little later.

Mr. GRAHAM. Very well.

Mr. WHITMAN. People who can go in there and spend a month on about \$40 are not the wealthy classes—and I am speaking for those people. And there is another class that I desire to speak for: Not the wealthy people who can roll across the continent in special-fare trains, travel in their big autos, and stay in expensive hotels, but the dwellers in Mr. Church's district down there in those hot plains, who have finished with their crops in the middle of the summer, and then pile their wives and children into a two-horse wagon and take their provisions and start for the mountains.

Mr. KENT. Can they get in Hetch Hetchy Valley?

Mr. WHITMAN. They can not get in Hetch Hetchy at present. I hope they will when Congress builds a road.

Mr. KENT. Secretary Lane qualified the statement as to people not being able to go there without money by saying that one class of people could get there if they had abundant leisure. Now, it requires, according to your statement, about a month to make the trip. A good many people have not the month to spare. It is the contention of many of us that with the building of better roads people could get in there in two or three days.

Mr. WHITMAN. Pardon me; in that month we traveled nearly 200 miles, going through the entire watershed.

Mr. SINNOTT. What are the usual attractions there that are not more or less common to a great many of the coast mountains, in both Oregon and California?

Mr. WHITMAN. They have, in the first place, the Yosemite Valley and the Hetch Hetchy Valley, which are built on substantially the same plan—that is, precipitous rock cliffs, with a perfectly level floor covered with grass and trees, and with a river flowing through it in both cases. In the mountains you have the rougher scenery; much rougher than where you are, sir; bare granite rocks. In many of the places where from the map you would suppose that you could camp only a fly could stick. There are steep precipices, where the run-off for water supply is most plentiful, because there is so little soil there; only bare granite rocks. At the eastern side of the mountains it is snow covered.

Gentlemen, again I say this is a large proposition you are asked to consider, and on a very narrow basis, because what is the basis of your jurisdiction at all? The United States has nothing to do with the waters of California. The waters of the Tuolumne River belong to the citizens of the State of California; and if the city of San Francisco had been able to buy and get in private ownership the dam site and all the land which it was necessary to overflow, and then proposed to return the water to the river after it was stored, they would not have come to you; you would have had no jurisdiction whatsoever. It is simply because some portion of land is to be flooded, or some portion of land is to be occupied, that they came to you at all. And, to take an extreme illustration, if they were simply flooding one-half acre of the domain of the United States, it would be necessary to come to Washington for permission. Now, you are endeavoring to—

Mr. SINNOTT. Is the Tuolumne River navigable?

Mr. WHITMAN. I think it is not.

Mr. SINNOTT. Is it navigable for logs?

Mr. WHITMAN. No.

Mr. DENNETT. Theoretically, I might say, the Tuolumne is navigable; practically it is not.

Mr. GRAHAM. But "navigable," under the law, means whether a river will float anything—a log, or a skiff, or anything.

Mr. RAKER. Under the California law it means just what the legislature designates the stream to be. If a stream is sufficiently navigable in fact to carry a steamboat, it is not navigable in law unless the legislature declares it to be navigable.

Mr. GRAHAM. Mr. Sinnott's question referred to the Federal definition of "navigable."

Mr. LA FOLLETTE. The fact is that steps are now being taken to have the Supreme Court of the United States decide that any stream that will float a log of cordwood is a navigable stream and under the jurisdiction of the Secretary of War. I absolutely know that to be the fact; and there have been gentlemen in this city within the last week working on it.

Mr. RAKER. But the Supreme Court a month ago passed on a case in California, holding distinctly, in a case where a man's life was at stake, that all the streams of California that were not designated as navigable streams were in law nonnavigable streams, whether in fact they were navigable or not. That was the grant to the State of California by the United States, and the Government can not now take it from them. But that question is not involved in this matter at all.

Mr. WHITMAN. Let me describe this river. It rises up amongst the highest crests of the Sierras, flows for 5 or 6 miles through a big meadow, and then in 20 miles falls 3,000 feet. It has some of the most wonderful falls, in beauty and volume, that there are in the mountains. Then it flows for 2 miles through the Hetch Hetchy Valley, and then there is a rushing mountain-stream for 20 miles more. If any of you gentlemen care to venture the trip, you had better take out a life-insurance policy before you start.

And on this basis, what are you being asked to do? You are being asked to sit as the Legislature of California, to legislate over purely State matters with which the United States has little or nothing to do. For instance, take the proposition to impose charges on the power produced. What is the basis of that? Power house No. 1 is outside of even the national forest, beyond the national forest, and I understand it is in private ownership. What right have you to impose charges on power created on private land? Where Secretary Lane the other day referred to charges was where a power company comes into a national forest and desires to locate on national land; and in such cases a charge is made for the privilege. What is your authority here?

Mr. LA FOLLETTE. Is it not the simple fact that in order to create a storage dam to get any of this power at all they have got to use a dam site belonging to the United States Government, under the ruling of the Secretary of War that the Government has a right to control any power generated by that dam?

Mr. KENT. It seems to me that conditions would always accompany that privilege. If the city of San Francisco asked for a privilege from the Government, the Federal Government has the right to exact conditions. It is not a question of Federal or of State rights.

(Thereupon, at 3.30 p. m., the committee adjourned until Saturday, June 28, 1913, at 10 a. m.)

COMMITTEE ON THE PUBLIC LANDS,
HOUSE OF REPRESENTATIVES,
Saturday, June 28, 1913.

The committee this day met, Hon. Scott Ferris (chairman) presiding.

The CHAIRMAN. Before we begin I want to submit a telegram which I have received from Mr. Eugene J. Sullivan, of San Francisco, Cal., addressed to the chairman of this committee, which reads as follows:

SAN FRANCISCO, CAL., *June 27, 1913.*

Hon. SCOTT FERRIS,

Chairman Committee on Public Lands, Washington, D. C.

SIR: Regarding your letter of 19th instant, absolutely no water shortage here. Such allegations are framed for political purposes. No need for haste in Hetch Hetchy matter. City officials are merely deceiving your committee as they have already deceived Mr. Freeman and Army board. We shall have unfortunate scandal. Army board accepted city's false data in good faith but did not give sufficient time for personal investigation. Respectfully ask time to complete data and present proof to your committee. Please consider this an official communication.

EUGENE J. SULLIVAN,

President Sierra Blue Lakes Water & Power Co.,

To which I replied as follows:

JUNE 28, 1913.

Hon. EUGENE J. SULLIVAN,

President Sierra Blue Lakes Water & Power Co., San Francisco, Cal.

Telegram received. If you know of any scandal in existence or any that is probable to arise, please have some Representative in Congress or other reliable person communicate it to us so the committee may have the benefit of it. We will welcome any information you have at hand along this line.

SCOTT FERRIS, *Chairman.*

Mr. KENT. I would like to know who this man, Mr. Sullivan, is?

The CHAIRMAN. He signs himself president of the Sierra Blue Lakes Water & Power Co.

Mr. KENT. What does he mean by that telegram being an official communication?

The CHAIRMAN. I do not know. I am merely giving the committee the benefit of his communication and of my reply. I want to pause long enough to inquire from any Representative in Congress, any member of the committee, or any spectator, or anybody here, whether he knows of anything irregular about any of the proceedings anywhere along the line? If so, I hope he will put it in the record. I shall not allow myself to be confused or deterred by wild telegrams being sent here, but if anybody knows anything or any reason why the committee should not proceed, or any responsible attorney who comes here, through his Representative in Congress, to give the committee the benefit of his knowledge, we will be glad to hear from him.

Mr. LA FOLLETTE. In connection with putting those telegrams in at this place, do you not think it would be a good place to ascertain what basis he has for that statement? I would like to know what he means.

The CHAIRMAN. Yes; I would like to know.

Mr. RAKER. I desire to submit the following telegrams and let them go in the record, together with my replies thereto. Here is one dated San Francisco, Cal., June 23, 1913:

HON. JOHN E. RAKER,

House of Representatives, Washington, D. C.:

We request hearing on Congressman Raker's bill giving to representatives of San Francisco the Hetch Hetchy Valley, one of the most important features of the Yosemite National Park, for a reservoir, be postponed until the next regular session of Congress in order that the opponents of park invasion may have time to be heard. This fight for and against the people's parks and playgrounds has been going on for years and there is nothing new in the famous Hetch Hetchy scheme calling for urgent and unfair speed.

JOHN MUIR.

To that telegram I answered as follows:

WASHINGTON, D. C., June 24, 1913.

JOHN MUIR, *San Francisco, Cal.:*

Your telegram in relation to the Hetch Hetchy bill at hand. Hearings on bill commence to-morrow. All parties desiring to be heard will be heard by committee. Hearings will proceed until completed, without unnecessary delay or adjournment. Therefore all interested should be on hand.

JOHN E. RAKER, M. C.

Also copy of telegram to Hon. William Kent, sent me by letter, dated San Francisco, June 14, 1913, as follows:

HON. WILLIAM KENT,

House of Representatives, Washington, D. C.:

Having been appointed as consulting engineer by Sierra Blue Lakes Water & Power Co. to investigate their Mokelumne River proposed water supply, I find that they will have available for San Francisco an economically developed supply of pure mountain water of at least 350,000,000 gallons per day. The city engineer's office have been aware of this, but seem to have mysterious prejudice in favor of Hetch Hetchy, and have not put forward the Mokelumne supply in its true and favorable light. My opinion, their report is unfair. I am preparing and shall have full data in few weeks that will prove granting of Hetch Hetchy unnecessary and against public interest, and that Mokelumne River upper catchments can fully supply San Francisco and bay regions for next century at least. Having investigated carefully and conservatively I give you my personal assurance as to this, and will furnish proofs.

My clients ask that committee defer action on Hetch Hetchy for six weeks until their full data can be presented.

TAGGART ASTON,

Foxcroft Building, San Francisco.

With that telegram came the following letter from Mr. Eugene J. Sullivan. Mind you, this letter was dated June 14, 1913.

SAN FRANCISCO, June 14, 1913.

HON. JOHN E. RAKER,

House of Representatives, Washington, D. C.

DEAR SIR: Inclosed please find a copy of telegram sent to Representative William Kent to-day by Taggart Aston, C. E., an expert hydraulic engineer, graduate of the Royal Edinburgh University. Also copy of report of C. M. Burleson, C. E., on the Sierra Blue Lakes and Mokelumne River water supply for San Francisco.

Respectfully,

SIERRA BLUE LAKES WATER & POWER CO.,
By EUGENE J. SULLIVAN, *President.*

With that they sent what purports to be a report, which has been printed, as to their examination of these various water supplies.

I sent the following telegram to Mr. Sullivan:

WASHINGTON, D. C., June 21, 1913.

EUGENE J. SULLIVAN,

Monadnock Building, San Francisco, Cal.:

Your telegram and copy of telegram and papers received. Hearing on Hetch Hetchy bill commences Monday. Will proceed without interruption until completed. All desiring to be heard had best be on hand.

JOHN E. RAKER, M. C.

The purpose of this is to show to the committee and to those people and others that the answers which have been sent by me to the people in California who have been objecting have been sent early enough so they could be here and be on hand now if they desired to come.

Mr. KENT. I received that telegram and showed it to the chairman. I did not take the pains to answer it, because it was a private scheme, a private money-making scheme, and led to the supposition that all who have ever investigated these various properties had lied and did not know what they were talking about, and I certainly did not want to waste my own money in answering that sort of communications by wire, and I did not want to waste the Government's money by charging unnecessary telegraph tolls to the Government.

Mr. TAYLOR of Colorado. I received a copy of the same telegram which was sent to Mr. Kent and to Mr. Raker. I did not answer it, because I do not like that way of acting. At the same time I received also the telegram from Mr. Aston, and I have received several others. I think I answered one from Mr. John Muir, and the telegram which I read yesterday from some conservation association, but I felt it was largely in the hands of the chairman and the conservative judgment of the committee as to what we ought to do. I did say quite forcibly at the outset that I doubted the wisdom of rushing this matter through, but at the same time, if those people had a chance to be heard, why, I did not want to do anything myself to delay it.

Mr. RAKER. I want to insert right here the following, also, Mr. Chairman, showing that those people have had information on everything connected with this matter.

Here is a copy of a resolution passed on June 16, 1913, by the Fillmore Street Improvement Association, showing the needs and the necessity of immediate action:

Resolved by the Fillmore Street Improvement Association, That a permanent water supply adequate for the cities about the Bay of San Francisco necessitates granting the Hetch Hetchy sources of water to said cities.

Resolved, That the most effective means to secure such rights is by legislative action as embodied in the Raker bill now pending for hearing before the Public Lands Committee of the House of Representatives.

Resolved, That we indorse the Raker bill and urge upon all members of said committee its favorable consideration, to the end that a favorable report may be made to the House as soon as possible and the bill started toward final passage.

Resolved, That a copy of these resolutions be sent to Congressman J. E. Raker and to Congressman Scott Ferris, chairman of the Committee on Public Lands, with a request that they be brought to the attention of the committee.

Adopted in regular meeting this 16th day of June, 1913.

Also a resolution of date June 16, 1913, by the Sailors' Union of the Pacific, of San Francisco, urging the committee to take immediate action and showing the necessity of it:

Resolved by Sailors' Union of the Pacific, That a permanent water supply adequate for the cities about the Bay of San Francisco necessitates granting the Hetch Hetchy sources of water to said cities.

Resolved, That the most effective means to secure such rights is by legislative action as embodied in the Raker bill now pending for hearing before the Public Lands Committee of the House of Representatives.

Resolved, That we indorse the Raker bill and urge upon all members of said committee its favorable consideration, to the end that a favorable report may be made to the House as soon as possible and the bill started toward final passage.

Resolved, That a copy of these resolutions be sent to Congressman J. E. Raker and to Congressman Scott Ferris, chairman of the Committee on Public Lands, with a request that they be brought to the attention of the committee.

Adopted in regular meeting this 16th day of June, 1913.

[SEAL.]

PAUL SCHAUMBERG, *Chairman*.
JOHN H. TENNISON, *Secretary*.

Also a resolution unanimously adopted by another organization of San Francisco upon the same subject:

Resolved, That a permanent water supply adequate for the cities about the Bay of San Francisco necessitates granting the Hetch Hetchy sources of water to said cities.

Resolved, That the most effective means to secure such rights is by legislative action as embodied in the Raker bill now pending for hearing before the Public Lands Committee of the House of Representatives.

Resolved, That we indorse the Raker bill and urge upon all members of said committee its favorable consideration, to the end that a favorable report may be made to the House as soon as possible and the bill started toward final passage.

Resolved, That a copy of these resolutions be sent to Congressman J. E. Raker and to Congressman Scott Ferris, chairman of the Committee on Public Lands, with a request that they be brought to the attention of the committee.

Adopted in regular meeting this 16th day of June, 1913.

CHESTER WILLIAMSON, *Secretary*.

Also a resolution adopted by the Iroquois Club, of the city and county of San Francisco, upon the same subject:

IROQUOIS CLUB, PACIFIC BUILDING,
San Francisco, May 6, 1911.

At a regular meeting of the Iroquois Club, held on Friday evening, the 5th instant, it was ordered that the following communication be forwarded to the board of supervisors of this city and county, and that a copy be sent to each of the improvement clubs and other civic bodies:

To the honorable board of supervisors of the city and county of San Francisco.

GENTLEMEN: The Iroquois Club of San Francisco respectfully requests that your honorable board adopt a resolution urging Congress to pass the Raker bill, which proposes by Act of Congress to grant to San Francisco our long-fought-for Sierra water supply.

The passage of this bill will place it beyond the power of any corporation-serving Secretary of the Interior to ever jeopardize the health, comfort, and prosperity of more than half a million people.

Speedy action on this bill is essential to the future growth and welfare of our city.

The Democratic and insurgent complexion of the present Congress makes it more than probable that favorable action can be secured if our officials and citizens urge its passage.

The Spring Valley Water Co. is ever active and watchful; our city must be equally energetic.

Your organization is requested to take similar action.

Respectfully, yours,

THE IROQUOIS CLUB OF SAN FRANCISCO,
R. A. LAURIN, *President*.
THOS. J. WALSH, *Recording Secretary*.

Mr. TAYLOR of Colorado. It will be admitted, will it not, that everybody in San Francisco is in favor of the proposition?

Mr. RAKER. That is not the only point. This is to show that public notice has been had out all over the State. I can insert here also an editorial coming from the Turlock and Modesto irrigation districts saying that this water supply should be granted, notwithstanding the conditions down there, that they have been adjusted, and showing that while some individuals might object, speaking for the public and the general conservation of the water supply of California, that this is a matter of public necessity and that they hope the Public Lands Committee will give it early and favorable consideration.

Mr. DENNETT. May I ask you, Mr. Raker, to put that editorial in the record?

Mr. RAKER. Yes, sir.

Mr. DENNETT. What paper is it from?

Mr. RAKER. I will read it. This editorial is from the Fresno (Cal.) Republican of June 13, 1913. It is supposed to be a reputable paper, published in this locality, and the editorial was sent to me.

Mr. CHURCH. We will not stand for that. It is not all one-sided; that the people right in the community say this is a legitimate, fair, and honest bill and should be passed.

Mr. GRIFFIN. Fresno is 90 miles from us, and the Chamber of Commerce of Fresno is against it.

Mr. RAKER. He says the other way.

Mr. GRIFFIN. He is mistaken.

Mr. CHURCH. Let me explain what I said. That is the only paper in the San Joaquin Valley, so far as I know, that has ever published one word against the Hetch Hetchy waters being used for irrigation purposes.

Mr. GRIFFIN. The editor of that paper is a candidate for governor.

Mr. RAKER. There is not any politics in this matter.

Mr. GRIFFIN. We do not care. Let it go in.

Mr. RAKER (reading):

[Fresno (Cal.) Republican, June 13, 1913.]

HETCH HETCHY WATER.

We suppose it is all right for the San Joaquin Valley chambers of commerce to unite in objecting to the use of Hetch Hetchy water for San Francisco, and for the San Joaquin Valley Congressman to undertake the fight in Washington. The provincial and local view of such questions is the one which everybody is supposed to take. Any Congressman, especially who evinces any symptom of knowing that the world outside of his district exists, is instantly denounced as a traitor, and it is probably the duty of local promotion bodies to cultivate the same limitation as a virtue. So we do not criticize the Fresno Chamber of Commerce for joining in the valley movement, and we expect to be criticized for not doing so also. But at least we may suggest that if the provincial view is to be taken, it should be supported by provincial arguments. The general arguments, to show that San Francisco could get an adequate water supply for approximately the same cost elsewhere have already been gone into elsewhere, and the decision has always been in favor of Hetch Hetchy and against the alternative plans. The real reason for the San Joaquin Valley protest is not because the McCloud River plan is or is not suitable. It is because we are the San Joaquin Valley, and it is therefore supposed to be our business to take the San Joaquin Valley side of things and leave the presentation of the other side to the other fellow.

The trouble with that sort of argument is that while those who make it are very serious, it is impossible to expect those who hear it to take it so seriously. And the other side will present some arguments which are very strong from every standpoint but ours. It will be shown, for instance, that the Hetch Hetchy supply is most available for San Francisco not because it is best or nearest, but because the better and nearer ones have been taken up already. The only reason Hetch Hetchy is still free is because it is a national park and not subject to appropriation. This fact reserves it from future appropriation for private irrigation, even if it were otherwise available. The expense of reservoirs and conduits, moreover, is greater than the irrigation districts could pay, even if they were permitted. The San Francisco permit reserves to the irrigation districts all the natural flow of the stream, and certain preferential rights as to any surplus from the stored water. San Francisco is to get only the flood water it stores, and that only as its need can be demonstrated. These are flood waters whose storage would probably not be permitted for any other purpose, and if permitted would not be financially practicable. By being put to municipal domestic use, the water will be put to its highest service. And it will permit the development of a great metropolis, which will be worth, as a market, more to the San Joaquin Valley than the water, if it could be had, would be.

These arguments may not be conclusive. To the person required to take the purely local view they are not conclusive at all. To us, our rights are highest, and no argument addressed to us that other rights are higher means anything to that viewpoint. Unfortunately, they are addressed to a judge who must consider just that question. And on every previous occasion, when the Spring Valley Water Co. presented the arguments which were presented by others to the Fresno Chamber of Commerce, the decision, after hearing both sides, has been the other way.

Mr. SINNOTT. What is the date of that editorial?

Mr. RAKER. June 13, 1913.

The CHAIRMAN. The committee is especially fortunate in having three members of the California delegation on the committee. I would like to ask the members of the committee from California if they know who Mr. Eugene J. Sullivan is. Do you know him, Mr. Church?

Mr. CHURCH. I do not.

The CHAIRMAN. Do you know him, Mr. Kent?

Mr. KENT. I do not.

The CHAIRMAN. Do you know him, Mr. Raker?

Mr. RAKER. Personally, no, sir.

The CHAIRMAN. In the face of the showing and hearings we have had, do you think that we ought to act on a telegram of this sort, alleging that they have certain scandalous matter to present, and do you think that is a sufficient warrant and notice to this committee that it should defer any future action? What is the suggestion of the gentlemen from California?

Mr. GRAHAM. Before they make a reply, may I make a suggestion?

The CHAIRMAN. Certainly.

Mr. GRAHAM. This matter can hardly be acted upon definitely before the 5th, 6th, or 7th of July, and that would give them ample time, and might it not be worth while to say to them that if they can make their protest to the committee even as late as the 7th or 8th of July the committee will hear them, and that otherwise we will assume that there is nothing to support those accusations?

Mr. CHURCH. I would say that Mr. Long, of San Francisco, himself is personally acquainted with Mr. Sullivan, and he could probably tell us what his business is and what his standing is, etc. Personally, I know nothing about him.

The CHAIRMAN. Not sweeping aside Judge Graham's suggestion, because I think it is a very good one, if there is anything wrong I know that there is not a member of this committee but who wants to know it, but, on the other hand, if it should develop that this man is the attorney for a private water company, just trying to confuse the committee, I should feel very differently about it. I would like to hear from some of the Representatives from California.

Mr. NOLAN. As a member of the California delegation and a Representative from San Francisco, I would say that I know Mr. Sullivan, and I know of his activities in connection with the Sierra Blue Lakes Water & Power Co. for a number of years. I stated to the committee yesterday, in appearing before the committee, that during the time I was a member of the finance committee of the board of supervisors of San Francisco, during the year 1911, he protested against every appropriation which was made for the city engineer's office to investigate and make surveys, at the request of the Government, of Hetch Hetchy Valley. Mr. Sullivan also objected to every appropriation that the board of supervisors was called upon to make for the city

attorney's office to get information for the Government in relation to this valley. Mr. Sullivan is a real estate agent in San Francisco and is interested in the Sierra Blue Lakes Water & Power Co. He is the president of that company, or was the president up to a short time ago. It has been suggested that he belongs to a corporation. That I can not state positively, but I do know that Mr. Sullivan is in the real estate business in San Francisco and has been very active in trying to prevent San Francisco from acquiring the Hetch Hetchy, with a view to selling his water supply to the city, in every instance trying to cause delay locally and as far as this Government is concerned.

The CHAIRMAN. Do you know anything about whether he is the representative of this Sierra Blue Lakes Water & Power concern, or is acting purely from patriotic motives?

Mr. NOLAN. He is the president and one of the principal owners of the Sierra Blue Lakes Water & Power Co.

The CHAIRMAN. Has there been an effort on their part to sell that supply to the city of San Francisco?

Mr. NOLAN. For several years; yes, sir. If you look over the report of the Engineers you will find that they have passed upon that.

The CHAIRMAN. The San Francisco engineers?

Mr. NOLAN. No, sir; the Army Engineers.

The CHAIRMAN. He asserts that the city administration has suppressed certain information which will amount to a national scandal in the event this committee does not adjourn until December?

Mr. NOLAN. As a member of the administration party in 1911, I was at every water conference of the representatives of the city attorney's office and the representatives of the engineers, Mr. Manson and his assistants, and I want to say that every bit of information that it was possible to collect and all of the data was published in San Francisco, and knowing the administration in San Francisco at the present time, I am satisfied, from the reputation and the actions of the present administration of San Francisco, that it is not their desire to in any instance attempt to suppress anything in relation to this water supply or any other public project. I do not believe that Mr. Sullivan is doing this for any other purpose than to try to cause delay. The sending of telegrams to the chairman of this committee and to members of the committee is to cause delay at this time, with a hope of eventually defeating this project. San Francisco is entitled to consideration in a fair way to get this bill through at this session, and Mr. Sullivan and others are using every possible means at their command to cause delay.

Mr. SINNOTT. Did you ever hear of this alleged scandal before or any rumors?

Mr. NOLAN. Never before until to-day.

Mr. SINNOTT. And all you know is in the telegrams?

Mr. NOLAN. Yes, sir.

The CHAIRMAN. You were a member of the city administration at the time the Army engineers made their report, when they made their investigation?

Mr. NOLAN. Yes, sir. I was also a member of the city administration at the time we employed John R. Freeman to conduct the examination into all of the properties of the Spring Valley Water Co. and to make an extensive investigation and report of the Hetch

Hetchy scheme. Mr. Freeman is one of the most noted experts in these matters that we have in this country. He is the consulting engineer for the Canadian Government.

The CHAIRMAN. At the time of the bond election in San Francisco did Mr. Sullivan openly oppose the movement?

Mr. NOLAN. He did.

The CHAIRMAN. What was the result of the election?

Mr. NOLAN. It was overwhelmingly in favor of the bond issue.

The CHAIRMAN. Do you recall the vote?

Mr. NOLAN. I can not give you the figures, but I think it was about 20 to 1; there were a few thousand votes against it. On every post in San Francisco the opponents of the measure on the day of the election had stacks of bills and literature for the benefit of the voters, which was a further attempt to defeat this project.

The CHAIRMAN. Has Mr. Sullivan wired you about it, as one of the Representatives in Congress?

Mr. NOLAN. No, sir. Mr. Sullivan did not wire me on this proposition at all. I have received no telegram from him.

The CHAIRMAN. Is Representative Kahn present?

Mr. NOLAN. He is not here this morning, but I think we can get him.

The CHAIRMAN. I wish you would have him appear before the committee.

Mr. TAYLOR of Colorado. Was this man Sullivan before Secretary Fisher at the meeting last fall?

Mr. NOLAN. I can not say, Mr. Taylor.

Mr. O'SHAUGHNESSY. He had an attorney here to represent him.

Mr. TAYLOR of Colorado. When did the Army board make their report?

Mr. LONG. In February of this year.

Mr. TAYLOR of Colorado. What time was it that the legislature memorialized Congress to enact this legislation?

Mr. LONG. In 1909, in the proceedings four years ago.

Mr. TAYLOR of Colorado. Anything more recent?

Mr. LONG. I think there was one in 1911 and one in 1913.

Mr. TAYLOR of Colorado. Has the present or any other governor of the State ever taken any active part in this matter?

Mr. NOLAN. I do not know of any former governor, but I know the views of the present governor.

Mr. TAYLOR of Colorado. What are they?

Mr. NOLAN. He is very much in favor of the proposition.

Mr. LONG. I am also familiar with his views.

Mr. TAYLOR of Colorado. When the delegation of a State are unanimously in favor of something, that usually settles it, so far as I am concerned, as being their judgment. That does not necessarily control the committee, but I feel that it binds the State pretty well.

Mr. CHURCH. The governor of the State was originally a resident of San Francisco, but he is now, of course, temporarily residing in Sacramento.

Mr. LONG. I have some personal knowledge of the history of this whole matter. In 1905, when I was defeated for reelection at the time the so-called Schmitz-Ruef crowd took possession of San Francisco, and shortly after the fire, a man with whom I was associated in the practice of law opened a temporary office in what was known

as the Market Street Bank, at the corner of Seventh and Market Streets. The president of the bank at that time was a man by the name of A. F. Martel, and the cashier was a man by the name of Nash. Some time during the year 1906, along in June or July, Martel came to me and told me that he and the bank were heavily interested in a scheme to supply San Francisco with water, and as I had been the city attorney and familiar with San Francisco's application for privileges in the Hetch Hetchy Valley, he desired me to represent this scheme before what was known as the Schmitz board of supervisors.

I inquired into the matter. He told me what the scheme was, and this is just the same scheme he showed me. I discussed it with him in a general way, but told him that during the course of my investigation I had had occasion to discuss this possible source with the engineers; that the engineers were advising me in their engineering capacity, and that they had rejected this scheme because there was no storage; that water rights were involved; that it would mean long, costly, and vexatious litigation; and that, in addition, it was not a sufficient supply. I told him, furthermore, that I was satisfied in my own mind that San Francisco should have the Hetch Hetchy supply, and that I would never associate myself with any other plan until I found that it was impossible to get the Hetch Hetchy source. He said that the board of supervisors were going to abandon the Hetch Hetchy source; that it was all fixed, and that "all you will have to do will be to present this matter to the committee." I told him that I did not care what had taken place, I would not appear. I learned subsequently, or at least I was told subsequently, that the bank had loaned large sums of money upon the bonds of this corporation. Later on, in the course of two or three years, the bank went into the hands of a receiver, and there was a great scandal about it.

Later on I made Mr. Sullivan's acquaintance when I was reelected, in 1907, to the city attorney's office of San Francisco.

Later on he came into this Blue Lake & Mokelumne Co. matter and desired to have it taken up, and I told him I would have nothing at all to do with it; that the matter of the policy rested with the board of supervisors, in the first place, and that I was merely acting in the capacity of a law officer to carry out the policy of the board as best I could. I stated that he must present his matter to the supervisors, and that I would not talk to him or take any interest whatever in it. Since that time I have never discussed with him the matter of the water supply. But later on I was informed by the attorney for the public administrator of San Francisco, Mr. Eustace Cullinan, a gentleman of high repute and known to nearly every Californian here, that an estate known as the estate of Maria Treadwell McNutt had come into the hands of the public administrator, and that one of the claims of that estate was a claim against this same Eugene Sullivan for \$30,000. He stated that they were trying to obtain payment of it, and that Sullivan claimed it was not a loan, but that it was a contingent interest on the part of the deceased in this particular scheme, by which he was to return her something like \$150,000 or \$200,000 for the \$30,000 which she advanced.

I know that he criticized the action of Sullivan, who was acting, as he said, in a confidential and fiduciary relation to the deceased. Since that time Mr. Sullivan has been, as Mr. Nolan has stated,

constantly objecting to everything the city has done in the matter of a water supply. If it is not to the acquisition of the Hetch Hetchy, he is objecting to the purchase of the Spring Valley. He has objected to the city's considering anything but his particular supply. As I have said, I refused to discuss the matter with him when he came to me, and I shall never discuss it with him, because I do not repose the confidence in him that I want to repose in anyone with whom I discuss public matters affecting the people of San Francisco. My statement in general, I think, can be supported by every San Franciscan here. That is the extent of my knowledge of the history of the Blue Lake & Mokelumne Co.

The CHAIRMAN. That is a corporation, is it not?

Mr. LONG. Yes, sir; I am satisfied it is, because Martell told me at the time that he was a holder of the bonds.

The CHAIRMAN. And he is the president of the corporation?

Mr. LONG. Mr. Sullivan—at least he represents himself to be.

The CHAIRMAN. Do you know what the assets of the corporation consist of?

Mr. LONG. No, sir; Mr. Martell told me that they had certain water rights, and that they owned certain lands, but I never could get any definite notion of the company in any of the reports beyond the sketchy matter he sends to the effect that it is a good project, and everything of that sort.

The CHAIRMAN. At the time it was presented to Secretary Fisher in February, in connection with the Army report, did he send this same kind of telegram at that time?

Mr. LONG. There was no suggestion as to any scandal.

The CHAIRMAN. What was the nature of his communication?

Mr. LONG. His contention was that this supply was cheaper for San Francisco. He was given an opportunity to present any data he had to the Army board, because the Army board had an engineer, Mr. Wadsworth, resident in San Francisco, to receive any and all reports upon any possible source, and they made their reports. They were considered by the Army board, and we made our replies to them.

The CHAIRMAN. Did he request a hearing before Secretary Fisher?

Mr. LONG. He requested a postponement of the hearing. Secretary Fisher set the hearing for November 25, or that is my recollection, and that hearing was continued for 10 days. Every possible interest was represented there, and at that time he requested a continuance, which Secretary Fisher declined to give.

The CHAIRMAN. The statement went into the record a moment ago that he requested a hearing, and that Secretary Fisher advised him to come on, and that he did not come.

Mr. LONG. That is true.

Mr. GRAHAM. I would suggest that Mr. Whitman and Mr. Dennett, who are opponents of the project, or anybody else who has the information, might enlighten us on this point, if they care to do so, with reference to Mr. Sullivan's opposition.

Mr. SINNOTT. I want to ask Mr. Long a question: Are any of these waters of the Blue Lakes Co. subject to appropriation at the present time?

Mr. LONG. All of the water of the Blue Lakes supply is vested in private ownership for power purposes. The Pacific Gas & Electric

Co. operates the plant of the Blue Lakes Co. I have never investigated the title, because that would mean the preparation of an abstract at great cost, but I have been told by officials of that company that they would not take this claim seriously.

Mr. SINNOTT. Then, you do not know whether that supply has been appropriated for domestic or other uses?

Mr. LONG. I do not, because, as I say, I have never had an abstract of the title. Mr. O'Shaughnessy could give you information touching that.

Mr. O'SHAUGHNESSY. On page 21 of this report, paragraph J, you will find a statement in reference to this source under the head of Mokelumne River. The entire quantity of water available, according to the report of the Army engineer, is 128,000,000 gallons, which would be entirely inadequate for our purposes.

Mr. KENT. As I understand it, these waters are taken up for electric power purposes already.

Mr. O'SHAUGHNESSY. At the present time.

Mr. KENT. And if San Francisco should obtain this water supply, it could not obtain a supply for electric energy with the water supply?

Mr. O'SHAUGHNESSY. No, sir.

Mr. WHITMAN. Referring to the statement made by Mr. Graham a few moments ago, I would say that I know nothing about Mr. Sullivan or Mr. Aston or the Blue Lakes Water Co.

Mr. RAKER. Some years ago, parties claiming to be interested in San Francisco, and who had been living there for many years, and then, I think, a number of officials of that city, took this matter up with me, and, subsequently, I took it up in San Francisco with Mr. Long, the city attorney, and he was on here several times. There had been some question in regard to the scenic beauties involved and other conditions in the Hetch Hetchy Valley. As the representative of the district in which Hetch Hetchy Valley is situated, after giving much thought and consideration to the matter, it seemed to me that the entire question could be obviated by the construction of roads and trails in the valley and around Hetch Hetchy and Lake Eleanor, and that these improvements would make it even more beautiful than it now is, and that it would give 100 people an opportunity to see it, if not a thousand, where only one sees it to-day.

A bill covering that subject was introduced some two years ago and copies of it were sent by the hundreds to California. The people have gone over it and they have in a way passed on it. The board of engineers made mention of that feature in their report. They reported as to the roads and trails, and the people appeared to be satisfied with reference to the roads and trails as reported by Mr. Freeman, the chief engineer. The same statement is true as to the sanitary conditions. I want to call the committee's attention to that fact, and then to this telegram. Many things were said about it; copies of the bills have been sent all over the country repeatedly; I have sent them out by the hundred and had reprints made of the bill for that purpose. This bill was again introduced when Congress met on the 7th of April; that is, a bill covering the same subject as the bill introduced before. The amended bill was introduced making it general, as in the Los Angeles scheme, with the idea and purpose and intent that these matters that had been practically agreed upon by the Turlock and

Modesto people would go into the bill eventually by virtue of the report, and the present bill was so amended and reintroduced. Some two weeks ago the committee in session determined that it would take this matter up. Telegraphic communications were sent all over California, and you will find that notice was extensively published in the papers that the committee was going to take this matter up at this session.

Now, this telegram leaves us with absolutely one course to pursue now. The chairman telegraphed, "We will welcome any information you have at hand along this line." The chairman thinks, in his judgment, that it is wise to answer this telegram, stating to this gentleman, whoever he may be, "We will welcome any information you have at hand along this line"—I have not the telegram before me now. Now, the only question before us, it seems to me, is this, that we ought to proceed and hear all of the witnesses here; the people are here, and we should hear them just as fast as we can, and when these people have been heard we will have ample opportunity to hear others if they desire to come. A delay of two or three days will not jeopardize the bill or any of its interests, and I do not feel like permitting a telegram of that kind to stand in the record. So far as I am concerned the course is clear, that that man shall be permitted to appear and testify before the committee. If he does not come voluntarily, then there is a way to get him here. I do not attend to business in that way, and I do not intend to participate on a committee in that sort of business. This matter would go into the public prints, and the statement would be made that this bill has been urged to such an extent that we are trying to rob this Government, and that no hearing was had of these charges. He has been telegraphed that if he knows of any such conditions to have it communicated to us. As one member of this committee I am going to insist upon his being here before this testimony is concluded, to show what he knows about these conditions. I believe that every man on the committee should sustain me in that.

Mr. TAYLOR of Colorado. You should not assume any superior virtue over the rest of the committee, because we have not been parties to any star-chamber proceeding in this matter, so far as I know.

The CHAIRMAN. You surely do not mean to intimate we are taking any star-chamber action——

Mr. TAYLOR of Colorado. Certainly not. The gentleman has been rushing the matter——

Mr. RAKER. I did not use the word for that purpose. I have not rushed the matter. I suppose the mere fact of asking that the matter be taken up promptly is not any indication of any intention on my part to rush the matter——

Mr. CHURCH (interposing). You were hurrying the matter——

Mr. RAKER (interposing). I have not said anything about this, but I have letters and telegrams, recent telegrams, which were sent to me on this subject, and I think it is all right if they want to come and be heard. There should always be afforded an opportunity to get at the facts; we ought to know what the facts are, so that no ulterior motive can be charged to any one in connection with the matter.

MR. CHURCH. I did not insinuate anything in regard to motives, but I was under the impression that you were in a hurry about this bill.

MR. RAKER. No, sir. Mr. Taylor made a statement, but of course he did not intend to say that I was going to assume any superior virtue; I know that is not what he meant.

MR. GRAHAM. Perhaps this will help the matter somewhat: I think there is no way to get Mr. Sullivan here unless he wants to come; this committee has not the power to subpoena him, and we would have to have a resolution and authority from the House to bring him here; but I suggest that we supplement the chairman's telegram, in view of the light we have received since the chairman sent his telegram. I would suggest that this further telegram be sent to Mr. Sullivan:

Since wiring you this morning it has been stated before the committee that you have financial interests in the Blue Lake as source of water supply, and are now seeking delay in your own and your company's interest. If you have any evidence in support of conspiracy charge, committee will delay matter until Monday, July 7 next, to give you a chance to produce it. Reply at once.

I have specified Monday the 7th for the reason that there will be hardly anything done here until after July 4. I believe the Fourth of July falls on Friday, and the following Monday, the 7th of July, will be perhaps the earliest practicable time at which the committee could take this matter up. In this way we pass the matter squarely up to Mr. Sullivan, and no one who might be opposed to the present bill can say that any snap judgment was taken on any one. Mr. Sullivan will thus be afforded ample time to present to the committee any evidence he has of a conspiracy or of any other matter relative to this bill.

It seems to me that you gentlemen who are particularly in favor of the bill should not want to make a single enemy or opponent. If it goes to the House with a favorable recommendation from this committee, you ought to make your defense in advance, and you want to give everybody who has any reason or right to be heard a full opportunity to come on and make his case, if he has one. Mr. Sullivan, we are assuming at this time, is a man of character and standing, because we have no evidence to the contrary, although statements have been made that tend to impugn his motives. Still no one can assume, or fairly assume, that he is not a man of character and standing. Now, he sends this telegram here, which is a direct charge against the motives of those who are pushing this bill. Now, then, if you get this bill before the House, in the hope that the bill may be passed, without giving Mr. Sullivan every reasonable opportunity to make good his charges, you will find the opposition multiplied. I think if we authorize the chairman to send Mr. Sullivan this telegram, or one substantially like it, or such a telegram as will suit the chairman, in view of the new information we have, and put it up to him and give him from to-day, which is the 28th, until the 7th day of July to appear—and that is ample time for him to get his evidence together and to get those who know any facts against the justice and fairness of this bill to come here and make their showing—we will be meeting the situation fully. Now, if by that time he does not do anything I think we can fairly assume that his charge is not a sincere one nor one founded

on the real facts. I therefore move that the chairman be authorized to send this telegram I have suggested, or some other telegram of similar import that is satisfactory to him, in addition to the one sent by him this morning.

Mr. KENT. I am perfectly willing to have this man come here, if he will come, and give whatever evidence he has; but it seems to me that if we start with this sort of precedent for delay we are likely to be flooded with telegrams from all sorts of sources. I believe if you will send him a telegram inviting him to come you should ask him to wire in advance the nature of his charge, and make him put up or shut quick. We do not want to be delayed in the consideration of this matter because of the making of such charges as these, which are made purely in the interest of the party himself, who is working for himself in this connection. If we are going to be delayed by appeals of this sort, we will never get through.

Mr. GRAHAM. I supposed that he had specified the nature of the charge.

Mr. LA FOLLETTE. There is one charge that was specified without ambiguity, and that is the charge to the effect that there is already a sufficient water supply available for San Francisco. Now, if that is true, each and every one of these San Francisco representatives have been trying to fool this committee. He makes that charge in his telegram.

Mr. DECKER. I was about to say that that is one question upon which we can get all the information we want. We have Mr. Kahn and Mr. Nolan, who know a great deal about that. I met him on the train once, and he talked to me all day about that. We can find out about the nature of the supply.

The CHAIRMAN. I want to supplement what Mr. Graham has said. I think that we all have in mind the fact that for the past two or three weeks a number of these engineers representing the Turlock and Modesto irrigation district and officials and engineers representing the city of San Francisco have been here on expense, and I thought that it would be somewhat of an injustice to them to have this matter continued. But there is plenty of meat in what Mr. Graham has said. If we go on the floor of the House with this bill, or even put it to a vote in the committee, you will have some one here saying that he was not given a chance. I think that probably a little more delay now will help the matter out in the end. Anyway, if we wait it will be giving all a chance. We, of course, can weigh what is said and done. I believe that a telegram along the line of that suggested by Judge Graham should be sent. In the interest of the legislation and in the interest and protection of this committee, and in the interest and protection of the California Representatives, upon whom I do not wish to see any blot or mar placed, I think we had better give him time to get here.

Representative Kahn is here, and I would like to ask Representative Kahn a question or two. Do you hold in your hand, Mr. Kahn, a telegram I received this morning from Eugene J. Sullivan?

Mr. KAHN. Yes, sir.

The CHAIRMAN. Do you hold in your hand a copy of my reply to that telegram?

Mr. KAHN. I have not read the reply yet. I will read it now.

The CHAIRMAN. Do you know this man Sullivan?

Mr. KAHN. Slightly.

The CHAIRMAN. Do you observe the charge he makes there that representatives of San Francisco are suppressing certain information and did suppress certain information before the Army board? Do you know anything about the truth or falsity of that charge?

Mr. KAHN. I do not think there is a particle of truth in it.

The CHAIRMAN. What kind of a man is Sullivan? What does he do?

Mr. KAHN. He is an attorney.

Mr. LONG. This Sullivan is a real estate man.

Mr. KAHN. Then I do not know him. I had in my mind Eugene Sullivan, who is a lawyer. If this is a real estate man, I do not know him.

The CHAIRMAN. As a representative of the city of San Francisco and of the State of California, do you think that telegram ought to be given heed and that this matter should be postponed until July 7, when he can be heard, or that we should urgently request him to come on here?

Mr. KAHN. I do not know whether such a long postponement would be necessary. If he has any serious charges to present, he could be here in four days. As a matter of fact, he knows and must know that this committee has been holding meetings for three or four days. The California papers are giving large space to this matter, because there is a great deal of interest in it in California, and it seems to me remarkably strange that at this late day, when the committee is about concluding its hearings, he should send a telegram containing statements of this character. That there is a water shortage in San Francisco is conceded by everybody.

The CHAIRMAN. But not by him.

Mr. KAHN. Of course; he is an interested party on the other side.

Mr. GRAHAM. That does not appear in the hearings, except as it has been stated by you gentlemen.

Mr. KAHN. Now, if the committee will indulge me for a few moments, I will say that the matter of an adequate water supply for the cities around the Bay of San Francisco has challenged the attention of the prominent citizens of those communities for many years. The water supply in the Coast Range is limited. The rainfall in the Coast Range is limited, and 25 inches a year at San Francisco and in the vicinity of San Francisco is considered a splendid rainfall. The rainfall at Hetch Hetchy—and I believe the records have been kept for upward of 30 or 40 years—the record shows that the annual rainfall is not less than 50 inches in the mountains. Since the Spanish-American War the cities on the coast, and especially those around the Bay of San Francisco, have grown enormously, and it became evident that the limit of water that could be used for domestic purposes would be reached in a short time if we were limited to the coast rain, and it became evident that we would have to go to the mountains for water. All of the various projects have been presented to the city from time to time; they have been studied by the engineers of the city and by the Army engineers, and it is practically the unanimous opinion of every man who has given the matter any close study and attention that Hetch Hetchy is the one place where San Francisco could get an abundant supply of water at the least possible

expense. And the matter of expense, gentlemen of the committee, is of no importance. I need hardly tell you of the overwhelming of the city of San Francisco in 1906. At that time the city had practically no debt; they had no debt whatever, no bonded debt at any rate. Then \$350,000,000 worth of property was wiped out in 60 hours. That is a most conservative estimate; there are estimates which state that as much as \$500,000,000 worth of property was wiped out. The city's property was destroyed, and we have had to bond ourselves in order to build schoolhouses, in order to put up fire buildings, in order to reconstruct hospitals, and in order to do many things of that kind.

Mr. RAKER. May I make this suggestion? I think the matter before the committee is whether or not there is any possible charge that could be effective at the present time.

Mr. TAYLOR of Colorado. To put it more concretely, I think we admit everything you have said and we want an opportunity to give you the water you need. One of the questions presented to the committee is whether or not it is necessary to give you Hetch Hetchy, and, if so, whether or not it is necessary to hurry this matter along at this time. Will it make any difference whether there is a delay of 3 days or 10 days? And for the purpose of expedition on the floor of the House, as I said the other day, had you not better make your defense here and now rather than have us meet objections on the floor of the House and have you gentlemen attacked there?

Mr. KAHN. I think, probably, there is much in what you contend, but if Mr. Sullivan is earnest and sincere, and wants to present his matter promptly, he can get here within four days, and I would suggest that you give him six.

The CHAIRMAN. That would put it right up to the 4th of July, and in Mr. Graham's telegram the date given is the 7th. Did you hear that telegram read?

Mr. KAHN. No; I did not.

The CHAIRMAN. In that telegram the date is fixed as the 7th and he is requested to come here at that time.

Mr. KAHN. That is probably as soon as you could get at it.

Mr. THOMSON. I second the motion. I think, as Mr. Graham said when he began his statement, we can not conclude our deliberations on this bill much before that time, because the Fourth of July is next week, and I think it is also very important, from the standpoint of the people of San Francisco, who are vitally interested, as Mr. Taylor says, that anything of this sort which comes up be given ample consideration by the committee. We ought to definitely fix a date for him to come here and state whatever he has to say, if he has anything. I second the motion.

The CHAIRMAN. I think that meets with almost the unanimous approval of the committee.

Mr. KAHN. Will you allow me a moment? I have just reread this telegram and the charges are against the members of the Army board, and I think he should be made to substantiate his statements or be compelled to shut up forever.

The CHAIRMAN. Of course, we have no power to force him to come.

Mr. KAHN. I think we should force him to do so.

The CHAIRMAN. But we can not. If you care to offer a resolution to that effect I think the chairman would be inclined to vote for it.

Mr. KAHN. I think, when he makes serious charges of that character, against men whose integrity is never questioned, that he be compelled to prove them if he can.

The CHAIRMAN. When I received his telegram this morning I thought the course to pursue was to send him the telegram that is attached there, but Mr. Graham's suggestion, which I believe is superior to the telegram I sent, is now before the committee in the way of a motion.

Mr. SINNOTT. We should not lose sight of Mr. Kent's suggestion that he be notified to give us some sort of a bill of particulars.

The CHAIRMAN. That has been added to the telegram.

Mr. LONG. I would suggest that there be added the request that he make specific charges and state when he acquired the evidence.

The CHAIRMAN. I fear that would make the telegram too cumbersome. I will now read Mr. Graham's suggestion, on which he based his motion:

Since wiring you this morning it has been stated before the committee that you have a financial interest in Blue Lakes as a source of water supply and are now seeking delay in your own and your company's interest. If you have any evidence in support of conspiracy charge committee will delay the matter until Monday, July 7, next, to give you a chance to produce it. Reply at once and specify nature of conspiracy.

Mr. DECKER. The telegram does not use the word "conspiracy," does it?

The CHAIRMAN. Would not the word "scandal" be better than the word "conspiracy"?

Mr. TAYLOR of Colorado. Use the word he uses, "scandal."

Mr. RAKER. Is this telegram to go out and are we to wait and postpone this matter until we get a reply?

The CHAIRMAN. We will go right along with what we have here, but we will hear him on the seventh, if he appears.

Mr. RAKER. There is no request embodied in the telegram. I am in accord with Mr. Graham's idea, but there is nothing in the telegram saying that the committee will hear him if he comes, and what would be the use of continuing it if he says he will not come? I am sure the very answer he will make will be, "I can not prepare in that length of time; I can not prepare myself until some time in December." And I think the committee ought to know now whether he will be here if the matter is contained a sufficient length of time, and if he says he will come we can go right ahead, and if he says we will not come we are powerless.

Mr. THOMSON. Why are we powerless?

Mr. RAKER. I mean as far as getting him here at the present time is concerned. In other words, I take it to be the sense of the committee, from the way the matter stands now, to hear what this man has to say; I also take it to be the sense of the committee that if he replies he does not want to come the committee will go ahead and disregard his telegram.

The CHAIRMAN. Mr. Graham has amended his telegram.

Mr. GRAHAM (reading):

If you have any evidence in support of your scandal charge and will come and present it the committee will delay the matter till Monday, July 7, to give you a chance to produce it.

Mr. RAKER. And ask him whether he will be here.

Mr. LA FOLLETTE. This telegram does not claim any scandal. This telegram says:

Regarding your letter of 19th instant, absolutely no water shortage here. Such allegations are framed for political purposes. No need for haste in Hetch Hetchy matter. City officials are merely deceiving your committee, as they have already deceived Mr. Freeman and Army board. We shall have unfortunate scandal. Army board accepted city's false data in good faith, but did not give sufficient time for personal investigation.

He says:

We shall have unfortunate scandal. Army board accepted city's false data in good faith.

The CHAIRMAN. Does not that convey to your mind a kind of predicate he is trying to lay for the scandal?

Mr. LA FOLLETTE. Well, the whole charge, as I see it, is against the city. The Army board seems to have been unfortunate in not having had acumen enough to prevent being flimflammed by the citizens of San Francisco, and this is a charge against the citizens of San Francisco. I think we should word the telegram in accordance with the telegram received.

Mr. SINNOTT. We are asking him to make his complaint more definite.

Mr. LA FOLLETTE. He claims a scandal will ensue if the committee accepts the same data that the Army board has been flimflammed into accepting. I think that is the meaning of this telegram.

Mr. THOMSON. In the last reading of the draft of telegram to be sent I notice it is stated that if he will come the committee will delay the matter until the 7th of July. I do not think we ought to say anything in the telegram which would interfere with our going ahead right now. I think we ought to say in the telegram that if he will come and have anything to present we will hear him on the 7th.

Mr. GRAHAM. That is what it does say.

Mr. CHURCH. I agree with Mr. Raker, that it is of the utmost importance that we should demand an immediate reply.

The CHAIRMAN. I think that is true, and I think we now have it in such shape as to accomplish that.

Mr. THOMSON. I think I am right about my point, that Mr. Graham has stated in the telegram that if he will come we will delay the matter until the 7th. I think that is an unfortunate word to use, and think we should say that if he will come we will hear him on the 7th.

Mr. DECKER. May I make a suggestion with regard to that telegram? In a sense we are acting as a judicial body, and, therefore, would it not be well to leave out the first part of that telegram? That might impress him with the idea, if he is smart enough to see it, that he is a discredited witness even before he gets here. Why not state the facts and say the committee has unanimously decided to ask him to come here and present whatever he has bearing on this matter. He may be discredited after he gets here, but we do not want to start out with the idea that he is a discredited witness. It seems to me it would be better to state that his telegram has been submitted to the committee and that the committee unanimously requests him to be present on July 7th and present whatever information he may have on this subject, and ask him to wire the committee whether he will come, or something like that. I do not believe in suggesting to him

that anything derogatory has been said as to his character, or otherwise.

Mr. GRAHAM. The reason I put it the way I did was to put the matter before him acutely, so it will be put up to him squarely that he was challenged and that it was up to him to make good. I wanted to make it plain that it was up to him to clear the atmosphere. That was my thought in putting it that way, not to leave it in a general misty way; not that we wanted him to make some more proof, but simply to bring home to him the fact that his statement was challenged and that it was up to him to support it. I thought that was only fair to him and that it would help us later on if these matters should come before the House.

Mr. DECKER. I can not help doubting the wisdom of it, but of course that is only my personal opinion.

The CHAIRMAN. This much is true, that not one of the 11 Members of Congress from the State of California is willing to come and vouch for the position of this man, and I submit there is some justice in calling his attention to the fact that he occupies a position which is at variance with that taken by all the Congressmen from his State.

Mr. GRAHAM. He may come and say, "If I had known the situation I might have done so and so."

The CHAIRMAN. These men are Members of Congress because of victories won on the battlefield of politics; they do not come here as irresponsible men, and I give much more weight to what they say than I do to all of these wild telegrams, nobody knowing from whence they come or whither they go. They are usually prompted by somebody who is an interested party or has an extravagant idea of what ought to be done rather than by those who are responsible to somebody and for somebody.

Mr. DECKER. As far as I am personally concerned I want my position to be understood. I would be willing to take the statements of Mr. Nolan, Mr. Kahn, and these other gentlemen, and not believe this man out there, because we have been reading in the papers for the last 12 years that they are short of water in San Francisco. Mr. Pinchot, I believe, mentioned the fact that they need water out there, and the Forestry Service, and Mr. Lane, who has some standing in California, testified in favor of this proposition. But this gentleman has made some statements; I do not look at them as charging a scandal; he has stated they do not need any water. That is a question of fact and not a question of scandal. He has made a charge, by inference, that the Army board accepted false data from the city, and we can call the Army board before us and question them more closely about how they got their information. But it looks to me as though there is no use in sending that telegram in a way which would indicate that he was discredited; he is an American citizen; he is out of jail; he stands unimpeached, and he has wired this committee and wants it to be treated officially, that he knows something about this subject, and my judgment would be that it is the duty of this committee to wire him that we will wait until July 7 to hear him and that we will hear him in full if he will come. That is my opinion about it.

Mr. STOUT. What will we do on July 7 if we get another telegram from this gentleman putting the thing in a different light? Are we then to delay the matter until July 14?

Mr. DECKER. That depends upon what he says in his telegram. My judgment would be to go ahead and vote on July 7. I would be willing to vote now; this telegram has not raised any suspicion in my mind.

Mr. THOMSON. As a substitute for the motion I move that a telegram be sent to this gentleman, and that the final form of it be left to the chairman and Mr. Graham.

Mr. DECKER. I second that motion.

(The question was taken and unanimously agreed to.)

The CHAIRMAN. Is there anything to prevent Mr. Whitman from continuing his statement? I think we owe him an apology for detaining him so long, but it is the wish of the committee to hear anybody who may have information that will be of benefit, or anybody who may know of any scandal connected with the matter. The committee will give additional time to Mr. Sullivan or anyone else who may desire to be heard. You may now proceed, Mr. Whitman.

Mr. WHITMAN. At the adjournment yesterday I was saying that the jurisdiction of this committee to act in this matter is based on the single fact that some portion of the territory of a national park is asked for use. If it was not for that fact, this committee would not be consulted. For instance, if the city of San Francisco were considering the question of taking water from the Sacramento River I do not understand that they would be here; that would be a matter that would be settled in California by California men, and, if it needed legislation, by the California Legislature. The water of California belongs to the State and not to the United States, and therefore you are now being asked to do a number of things which are, to say the least, unusual for a congressional committee.

You are being asked to dispose of the water of the Tuolumne River for all time; you are being asked to render arid for all time 160,000 acres—250 square miles—of the San Joaquin Valley; you are being asked to settle great questions of conservation, as to whether it is wiser, if it is any of your business, to make that district arid or to turn water in some other direction in the State of California; you are being asked to settle water rights between various districts and the city of San Francisco, settling them against not merely all present citizens of California but all future citizens of California.

Mr. SINNOTT. What, in your opinion, would be the legal effect of our legislation; that is, our legislation as to the regulation and restriction of the use of water?

Mr. WHITMAN. I think it means this, that if some riparian owner of the lower Tuolumne has any question to raise in the face of this bill that question can only be answered by the Supreme Court of the United States, and the result will be that any attorney in California with whom he consults will say: "Give me your farm and I will take your question to Washington."

Mr. SINNOTT. Your contention is that we have no right to legislate as to the use of the water?

Mr. WHITMAN. Yes; as to the use of the water.

Mr. SINNOTT. And whatever legislation we may pass will be null and void, or voidable?

Mr. WHITMAN. I am not saying it will be, but I am saying you are raising that serious question.

Mr. LA FOLLETTE. I have not understood that we are legislating as to this water at all but that we are legislating for a site, and in that legislation are trying to provide certain safeguards and not, if possible, do any injustice. The laws of California, as I understand, will control the water supply in the future just the same as they do now, but they will not control the quantity of water that comes down on account of this dam which will be built on Government land to hold up the flood waters. But outside of that, as I understand it, this committee is not asked to increase or decrease the natural flow of the Tuolumne River, and that whatever is done is done subject to the laws of California. If I am incorrectly informed I would like to be corrected at this point.

The CHAIRMAN. I should hardly care to pass upon the law just now. It is my opinion, without running the matter down at all, and I may not be correct about it, that the dam site being in a national park, and being the property of the Federal Government, we undoubtedly have the right to make grants and pass legislation with reference to it. The national park undoubtedly belongs to the Federal Government and, therefore, we have the right to grant this dam site and right of way which they seek, and incident to that we are putting provisions in this bill which seek to regulate the use of the water and of the power. However, I do not think——

Mr. LA FOLLETTE (interposing). All subject to the laws of California?

The CHAIRMAN. Yes; all subject to existing legislation in the State. Of course it is assumed that the State has not been legislating on Federal Government property.

Mr. LA FOLLETTE. But this man claims that what we are doing is not subject to the laws of California, yet I claim that we are not attempting by this bill to legislate, nor has this committee any idea of legislating, in that way.

The CHAIRMAN. I submit that Mr. Whitman appears here in the attitude of a witness and the committee can take what he says for what it is worth.

Mr. LA FOLLETTE. I would like to get light on that.

Mr. WHITMAN. I want to make that clear. One of the decisions of the California Supreme Court in one of the Miller and Lux cases, a unanimous decision, holds that the riparian owner is not only entitled to the normal flow of the stream but to the flood flow; that he is entitled to have the flood go over his land and leave the modicum of silt which comes with it. That decision is not only the law of California but of the Supreme Court in Washington. Now, you are taking, or attempting to take, water from this river which is the flood water and you are taking it away from that riparian owner, and in doing that I say you are taking up a question which the Supreme Court of California may think it is its duty to pass upon in the future as it has in the past.

Mr. LONG. Will you permit me to ask you wherein the bill in any wise says how the water shall be disposed of?

Mr. WHITMAN. It takes away 400,000,000 gallons a day.

Mr. LONG. Does it not, as a matter of fact, say that San Francisco shall recognize certain rights held by irrigation districts?

Mr. WHITMAN. It does not recognize the rights of the riparian owner.

Mr. LONG. Does not the bill provide that San Francisco shall recognize certain rights of the irrigationists?

Mr. WHITMAN. Yes; but it does not recognize the rights of the riparian owner generally.

Mr. LONG. Is the riparian owner involved?

Mr. WHITMAN. Certainly he is if his water is taken away from him.

Mr. LONG. Then this Congress can not legislate against him.

Mr. WHITMAN. I should prefer not to discuss that with counsel.

Mr. JOHNSON. I would like the witness to proceed.

Mr. DECKER. I would like to have them thrash out this matter because they are lawyers.

Mr. GRAHAM. I would like to ask a question for information. Mr. Whitman, if I understand you rightly, the court in California has decided that any landowner along a stream has a right to the benefit which the floods may bring to his land by depositing silt thereon?

Mr. WHITMAN. Exactly.

Mr. GRAHAM. Has that theory come in conflict with the theory of the conservation of water and the preservation of the rights of others? To explain, to give him the benefit of that theory the flood water must be lost; it goes on to the sea and does nobody else any good unless other lands are flooded and enriched by the silt; but others could raise crops with that water if it were stored and they have a possible right in it. Now, has that conflict of rights been determined?

Mr. WHITMAN. Not so far as I know.

Mr. GRAHAM. And do you think the California courts would say the water must be wasted and that land which otherwise might be irrigated and made productive shall remain unproductive in order that he may enjoy that right?

Mr. WHITMAN. I am not raising that question, sir. I am simply saying that this committee is being asked to settle that question now rather than to leave it to the California courts and the California Legislature, where it belongs.

Mr. KENT. How could we settle it?

Mr. WHITMAN. By taking 400,000,000 gallons away from that valley—

Mr. KENT (interposing). We can not enact California law here.

Mr. LA FOLLETTE. If we carry his contention to a logical conclusion, would it not appear that Congress is making a great mistake and is infringing on the rights of private citizens when it grants the right to construct dams and dikes along the Mississippi River in order to prevent the flood waters of that river from overflowing, because some man may say, "I have a right to have this water overflow on my land because I want to raise rice," or something else, and is not that man deprived of his rights if he is not allowed to have that water?

Mr. STOUT. You say that if this is done it will leave 150,000 acres of arid land in that valley?

Mr. WHITMAN. Yes.

Mr. STOUT. Are there any other dam sites whereby these waters may be stored and this arid land reclaimed except the dam site at Hetch Hetchy?

Mr. WHITMAN. Yes.

Mr. STOUT. So that there will never be any necessity for the reclamation of any of this land in order to build a dam at Hetch Hetchy?

Mr. WHITMAN. How far that goes I am not able to tell you, but gentlemen who live in that neighborhood say there are plenty of dam sites in the foothills which can be used for irrigation purposes. I do not think there is sufficient information before this committee to inform you exactly on that point.

Mr. GRAHAM. If the servient owners have the right you speak of they could enjoin the construction of a dam in the foothills which would interfere with their flood-water rights?

Mr. WHITMAN. I say, sir, that that whole matter is for the Legislature of California to determine. I take it that the Legislature of California can determine those questions.

Mr. GRAHAM. I do not know whether the legislature or the courts. Suppose they say that water shall go untrammelled to the sea and do nobody any good?

Mr. WHITMAN. I simply said that they have said that.

Mr. TAYLOR of Colorado. If we grant the right from the Government to construct this dam and certain rights of way, attaching thereto a condition that the city of San Francisco shall recognize the agreement which they are making here—whether we have the power to attach that condition possibly there may be some question, I do not say there is or there is not, but we are endeavoring to protect the people down below, and do you not think that the courts of California would enforce that kind of an agreement?

Mr. WHITMAN. I would like to read you a little authority on that later.

At the present time I want to call your attention to this extraordinary provision in the bill on page 15. This arrangement with the irrigation districts is to be "notwithstanding any general laws of the United States, or of the State of California, or any general rules of property established by the courts." This is the first time I ever read in any statute a proposition to bind all the courts of the country.

Furthermore, in section 10, on page 25, it is provided:

That this grant to the city and county of San Francisco, so far as it relates to the said irrigation districts, shall be deemed and held to constitute a binding obligation upon said grantee in favor of the said irrigation districts, which said districts, or either of them, may judicially enforce in any court.

Mr. LONG. On those two parties.

Mr. WHITMAN. In other words, you are giving the jurisdiction to a California court or else you are giving the jurisdiction to a United States court, which it may or may not possess. If it possesses it, there is no need of this. I assume it is put in because it is supposed that there is no such jurisdiction in any court now.

Mr. SINNOTT. Would not the United States court have jurisdiction over any controversy coming up under this act if it exceeded \$3,000?

Mr. WHITMAN. I do not know.

Mr. SINNOTT. Is not that the statute?

Mr. WHITMAN. There is jurisdiction conferred upon some court, whether the United States court or a State court I do not profess to be able to say from this language.

Mr. THOMSON. Which was your first reference?

Mr. WHITMAN. On page 15, in lines 9 and 10.

Gentlemen, this idea is not original with myself. When I first presented this matter to this committee this particular consideration had not occurred to me. It was suggested to me by the committee itself, and I therefore desire to read to you as my authority a part of the minority opinion of this committee in the Sixtieth Congress, second session, when a somewhat similar bill, containing somewhat similar provisions of the Garfield grant, was before the committee. That opinion, I understand, was written by Mr. Mondell, of Wyoming, now a Member of the House and at that time chairman of this committee. Mr. Mondell says:

I am of the opinion that the city has failed to establish its contention that the Hetch Hetchy is the only reasonably available source of water supply in the Sierras, and that therefore the interests of the people of all the country should be waived on behalf of San Francisco in its claim to exclusive use of this valley. But aside from this and all similar questions that have been raised, the legislation is particularly objectionable on account of features that are entirely unnecessary to the granting of the privileges that San Francisco seeks, and which would, in fact, render the privilege granted of doubtful value, features which relate to subjects not under the control of Congress, and with regard to which it has no authority and ought not to attempt to legislate.

Then he goes on to refer to the stipulation approved by the board of supervisors of the city of San Francisco, which permit and stipulation contain a number of provisions which it is very doubtful whether Congress has authority to or ought to attempt to enforce, particularly the arrangement with the irrigation districts and with the use of the surplus or flood waters. Then he says:

There is also a provision compelling the city of San Francisco to sell to the Modesto and Turlock irrigation districts any excess of electric power which the city may generate by means of its dam which shall not be used for actual municipal purposes by the city and county of San Francisco, at actual cost, to be fixed by the Secretary of the Interior, and also a provision that the city shall not interpose any power plant on the line of flow of the water which it impounds, except under conditions and limitations above set forth.

Whatever we may think as to the propriety of these conditions and stipulations as between the Secretary of the Interior and the city and county of San Francisco, it is very clear that the Congress of the United States has no authority and ought not to attempt to legislate in such matters. In fact, the language in the resolution which is objected to entirely changes its character from one simply proposing an exchange of lands between the city and county of San Francisco and the United States into legislation settling water-right controversies in advance of their having arisen—fixing the limitations of certain water rights without adjudication, placing limitations upon the authority of the city to even use as it sees fit power which it creates, and compelling it to dispose of all but a limited amount of that power to others.

The resolution came to Congress ostensibly on behalf of and for the benefit of San Francisco. As it is reported it is practically legislation for the benefit of the Turlock and Modesto irrigation districts, and touching matters not within the scope of congressional authority.

There are many serious and important questions to be considered in connection with this legislation: As to whether there are not a number of other reasonably available sources of Sierra supply for the city in addition to its present reasonably satisfactory supply, which is better in quality and more abundant in quantity than that enjoyed by many cities; therefore, whether the committee is justified in legislation that would make the city's tenure of Hetch Hetchy under the Secretary's permit more permanent. There is also the question as to whether the rights which the city has obtained under the Secretary's permit are sufficient, and also as to whether it is the intention of the city to really develop the Hetch Hetchy Valley and Lake Eleanor sites, or rather to hold them under congressional grant pending the acquirement by the city of the Spring Valley Water Co.'s plant.

If all these questions are resolved in favor of the city's view and contention the legislation is objectionable for the reasons above mentioned, which take it out of the category of legislation of doubtful propriety and expediency and place it in that of doubtful constitutionality and of unquestionably mischievous and dangerous character.

Now, that report was signed by you, sir, and I will leave you to defend yourself in executive session, which you no doubt can do.

The CHAIRMAN. I will say in that connection that at that time the situation was an entirely different one than now. At that time the city of San Francisco was not in a water panic, and at that time they were not in agreement with the irrigation people below or in agreement with the local water company whose rights the committee then thought they sought to confiscate. Those were some of the questions. I did not draw the report, but I did sign it. At this time they come here with an agreed statement of facts and with the support of the California delegation. Part of the delegation vigorously opposed the proposition at that time.

Mr. WHITMAN. That report was signed also by Mr. Craig, of Alabama, Judge Reynolds, of Pennsylvania, and Mr. Hamilton. Two others dissented on the simple ground that the result of the bill would be to exclude the public from the valley—Mr. Volstead, then a member of the committee and now a Member of the House, and Mr. Gronna, a Member of the Senate.

Mr. TAYLOR of Colorado. What was the date of that report?

Mr. WHITMAN. February 8, 1909, committed to the Committee of the Whole House and ordered to be printed; Sixtieth Congress, second session; Report No. 2085.

We have always claimed from the very beginning—perhaps more politely, but exactly the same thing that I quoted from the editorial in the Los Angeles paper—that San Francisco has wanted to come to Hetch Hetchy for the single reason that it was the cheapest place; and in that connection I would like to ask your attention to the remarks of Mr. Herbert Parsons, a former Member of Congress from New York, who also wrote his own views upon this matter.

Mr. TAYLOR of Colorado. He was a member of this committee?

Mr. WHITMAN. Yes, sir.

The real difficulty with San Francisco is that it does not wish to consider any other supply. The others might cost more.

Then skipping a few paragraphs he goes on and says:

Certainly the Federal Government is not bound to give up to San Francisco two-fifths of a national park simply because it is cheaper. Why is it cheaper? It is cheaper because, having been made a national park, it has not been possible for private interests to file upon the water in the same manner that they could have if there had not been a national park.

Mr. THOMSON. Was it the contention that it would be giving up two-thirds of the national park?

Mr. WHITMAN. I shall endeavor to discuss that a little later.

Had private interests been allowed to file upon the water, San Francisco would not have thought of going to Hetch Hetchy any more than to any other place. It would have chosen the place that it most cheaply could have condemned. It goes to Hetch Hetchy mainly because it is the cheapest.

Mr. SINNOTT. What is meant by the assertion "if private interests had been allowed to file"?

Mr. WHITMAN. If it had not been a park.

Mr. SINNOTT. Was there anything to prevent them from filing?

Mr. WHITMAN. If it had not been a public park they would have filed long ago just as they have on various other rivers which have been referred to. No one can file on the park property.

Hetch Hetchy is the cheapest because it belongs to all the people instead of to some of the people. It has been preserved and made cheap because the purpose was to use it as a national park. Having been made cheap in that manner, San Francisco now desires to use it for itself by spoiling the very purpose which has made it cheap.

Gentlemen, I submit that the remarks which I have read from the views of the members of the committee four years ago are just as sound now as they were then.

Let me go back to something I discussed yesterday, and take that up a little more fully, which is the water supply of San Francisco at the present time that comes from the Coast Range. It is a mountain supply, a range of mountains where the rainfall may be not so large as it is in the Sierras, although the diagrams which have been shown you show the rainfall at La Grange Dam, 60 miles westward of Hetch Hetchy, and not at Hetch Hetchy, but still a very ample rainfall for the purposes of San Francisco, and there is, as you have heard, five months' rain there as in other parts of the State. The result is you have a flood flow in those mountains as you do in the Sierra Mountains.

Mr. KENT. How about the riparian rights?

Mr. WHITMAN. The water is being used. The flood flow is now going to the sea and being wasted to a large extent, as the Tuolumne flow is now going to the sea. That can be preserved and has been preserved by the purchase of the lands by the Spring Valley Water Co., and I assume that the city is going to take a large amount of the watershed.

Mr. KENT. Does the purchase carry with it the right clear to the ocean?

Mr. WHITMAN. I do not understand that it does, but the same question arises in one river as in the other.

Now, I have listened at a number of these hearings to the representatives of the Spring Valley Water Co. They are not here to-day. I have never heard them make any factious contention, certainly not any of the kind which has been the subject of discussion this morning. Before Secretary Fisher they limited themselves to saying that the city has suddenly slurred our water supply, and its extent, and we desire to put the Secretary in possession of the facts, as we can get them, and thinking that our own engineers might be regarded as an interested source, we have employed outside engineers to make a very careful investigation. That is Gen. Chittenden's report, of which I spoke yesterday.

Mr. TAYLOR of Colorado. Please give the committee, in substance, his report.

Mr. WHITMAN. I will leave the report with the committee, not with the request that you read it, but that you look at the pictures. He says that it is not only an uninhabited territory, but to a large extent an uninhabitable territory, well wooded, and would make an excellent gathering ground for water for a municipal water supply. Gen. Chittenden's conclusions are not based on his investigation alone—he is, I think, a citizen of Oregon—but of other engineers appointed to assist him. He says, in his summary of conclusions, on page 22:

There is no substantial reason to believe that the consumption of water in San Francisco County will exceed 92,000,000 gallons daily by 1950, or 235,000,000 gallons daily for the five bay counties, apart from the supply from private wells.

The three main divisions of the Spring Valley system—the Peninsula, the Alameda, and the coast streams—by careful development into a single unified system are capable of a dependable supply of over 200,000,000 gallons daily.

He states what the city would need in 1950.

By resort to the company's other sources and to the San Joaquin River the supply may be indefinitely increased.

So far as quantity is concerned, there is no present necessity for a resort to the Sierra, and will not be for an indefinite period to come.

If there were no Sierra, San Francisco could still face the problem of a future water supply with perfect equanimity.

As to quality, the Sierra supply is softer, but hygienically no purer, and is less palatable as drinking water than the Spring Valley supply. The extra cost of the Hetch Hetchy system will virtually be the price paid for a gain in the quality of softness.

Now, the Army engineers are not quite as optimistic as Gen. Chittenden as to the amount of water, but their estimate is 133,000,000 gallons from this coast supply in the immediate neighborhood which could be immediately developed and which the city is now proceeding to develop, as they say.

I called attention yesterday to the suggestion in this bill that they desired not to proceed at once, but to have three years in which to file their plans, which raises a suggestion that they may desire, after they leave here, to take further time, and that suggestion is well founded, because it is in compliance with Mr. Freeman's advice that they shall develop these local sources before they go to the Sierras. Let me read to you what he says briefly. I read from his report on page 74:

I am led to believe it probable that with the utmost reasonable development of the sources on both sides of the bay, owned by the Spring Valley Co. and by the People's Water Co., it will be necessary to begin construction work vigorously on the Hetch Hetchy supply inside of 5 or 10 years, and it may prove expedient to begin much sooner.

Mr. TAYLOR of Colorado. What is the date of that report?

Mr. WHITMAN. This is the report presented to the Secretary of the Interior last November.

Again, on page 69, he says, speaking of these very reservoirs in the Calaveras, which are now being talked about, and another one:

The building of these two reservoirs might permit the building of the Tuolumne works to be deferred four or five years, and an amount would be saved in interest that would build the dams two or three times over and leave them forever after as a reserve for accidents or as an aid to agriculture.

Mr. Freeman, the most eminent engineer they could find in the country, advised them that it would be the part of wisdom to develop the local supply and save the interest on this enormous Hetch Hetchy development and to wait several years before they begin.

Mr. KENT. Was Mr. Freeman acting for the city of San Francisco, or was he acting for the Secretary of the Interior?

Mr. WHITMAN. No, sir; he was acting for the city of San Francisco, employed and paid by them.

Mr. KENT. Was he selected by Mr. Fisher?

Mr. WHITMAN. No, sir; he was employed by the city of San Francisco and no one else, so far as I am aware.

Mr. LONG. He was employed at the suggestion of President Taft. He said that he would be willing to leave the whole matter to Mr.

Freeman if San Francisco had not spoken to him in the first instance. Mr. Freeman replied that he was not then in the service of San Francisco, and President Taft turned to the delegation and said: "I would advise you to employ Mr. Freeman."

Mr. PHELAN. Is he not the most eminent hydraulic engineer in the country?

Mr. LONG. Yes, sir.

Mr. WHITMAN. I think so.

What do they propose to do with this local supply and all this water when they get Hetch Hetchy; throw it away? Because Mr. Freeman says, on page 63:

I have designed the city end of the Hetch Hetchy aqueduct in the belief that this purchase will be effected, and that the much better mountain water will be used, while the peninsula sources will be held in reserve and perhaps be made useful meanwhile as an aid to irrigation. Each million gallons daily can irrigate nearly a square mile.

He goes on and suggests that with this first pipe which will bring down 240,000,000 gallons daily, more than the city of San Francisco and the whole district can use, that it may be used for irrigation. Mr. Long told you in his address that they had decided not to recommend it to the city, but when Mr. Brown attempted to find out what they proposed to do with this enormous amount of surplus water he did not get any very clear answer.

Mr. LONG. For the people to drink.

Mr. WHITMAN. They can not drink 240,000,000 gallons a day when 100 gallons per day is the highest estimate per person. Mr. Freeman estimated 100 gallons a day, so for a million people you would want 100,000,000 gallons daily.

Mr. O'SHAUGHNESSY. In Chicago they use 240 gallons a day per capita.

Mr. WHITMAN. That is all discussed by Gen. Chittenden and Mr. Freeman as to how much will be used by the city. The city in the past has used 80 gallons per day per individual. Mr. O'Shaughnessy suggests that they should be encouraged to waste it up to the extra amount. That is what that amounts to.

Let me skip a moment over what I had arranged to say to the use of this park. I have been asked, and it is a serious question, what there is in the proposition that the use of this grant to the State will destroy the use of this park, and I desire to address myself to that point.

In the first place, may I acquaint you a little with the geography? The national park has about 1,500 square miles, a pretty good sized State in our part of the country, divided into two watersheds. Below the green line is the Merced watershed and above the green line is the Tuolumne, two parallel rivers, running from 20 to 30 miles apart, from east to west. I can not attempt to describe to you the character of the country. It is some of the roughest country that God ever made. You do get little places here and there where there is grass and water, but the large part of the country is the roughest sort of country, where camping is as impossible as it would be on the top of this table. Camping and the use of this park reduces itself to one thing—the feed for the horses. If you are going in the park with horses, you have to find a place where you can feed them with grass, particularly any number of people. There are only three places in the entire park where you can take care of horses.

The Yosemite Valley is a flat, level, grass-covered floor, where a large number of people can and do live during the summer—camp and live there—that is well supplied with roads. You not only have the road from the end of the El Portal Railroad, but there is the old road coming from the south, and so the people can get in there easily. From there they can climb up into the whole of the other country, this rough granite country. The Tuolumne country has two locations for camping. The one marked in red on the extreme right is a stretch of land perhaps 15 miles long and running from half a mile to a mile wide, and it is about 8,000 feet above the sea, surrounded by snow-capped mountains. That road at the right, which is now in private ownership, is the Tioga Road, but it is not now available, because the bridges have long since gone out. However, if the Government were willing to buy that road it would furnish access to that territory. The other territory is the Hetch Hetchy Valley, the floor of which is perfectly level and grass covered. The floor is 2 or 3 miles long and nearly half a mile wide. That is surrounded by steep cliffs, where there are gorges out of which one may toilsomely climb to stopping places, among others to the Tiltill Valley, where a few people go and camp for a short time. As you pass up the Hetch Hetchy Valley and look east you see the Rancheria Mountain rising in front of you, too steep to permit of climbing, up 2,000 feet. That mountain has a sort of flat top, and there is grass up there where quite a number of people can camp, but a wagon road up there is quite out of the question. Right between those two red spots [indicating] are 20 miles of canyon, and it would take a strong man four days to go through those 20 miles of canyon, because it is so rough. Those who are not so strong would go as we went, over the mountain side, just above the Hetch Hetchy Valley. I have gone out from the top of the mountain there and dangled my feet down into scenery from a position where I could look down 5,000 feet to the river below and across to the other bank, a distance of some ten or twelve thousand feet. The Grand Canyon of the Colorado is a mile deep and 15 miles wide, but here is a gorge, just back of the Hetch Hetchy, a mile deep and 1½ miles wide. There is no other place like it on the face of the globe. Now, if you covered that valley with water—and I am not now discussing scenery at all, but I am discussing availability—there is no place for people who come into that part of the grounds to stay. That [indicating] is the road which goes to Hog Ranch, which is supposed to be 8 miles from the valley. My friend, Mr. Long, possibly has never been there, as he stated that Hog Ranch is just outside of the valley. It is just 8 miles away.

MR. LONG. I was there last summer.

MR. WHITMAN. It is 8 miles from the valley.

MR. SINNOTT. How many people go into that section?

MR. WHITMAN. It is so remote and so illy provided with means of locomotion that at the present time comparatively few people go in; but if the Government were willing to build a continuous road from Hog Ranch into the valley there is no reason that occurs to me why as many people should not go in there as now go into the Yosemite Valley.

MR. KENT. How many head of live stock would that valley support during a season?

Mr. WHITMAN. I am not enough of a farmer to tell you that, but there is a grass-covered meadow there I should think 1 mile long, and at the lower end of it a half mile wide.

Mr. O'SHAUGHNESSY. Did you go to the other end of it at all?

Mr. WHITMAN. That valley is divided into two parts by a large ridge of rocks running across the middle. The upper end of it is rather a high and dry country, covered with tall pine trees, 200 or 300 feet high, with magnificent live oak trees and other trees, making it in fact a real park—that is, a natural park. The lower end of it is a meadow, and I am told that at times mosquitoes are bad there. I have no doubt of that, because everywhere in the Sierras after the snow and water disappear the mosquitoes appear. I have been in that valley twice during the last week in July, and have had no annoyance from mosquitoes. Both times I went down to the meadow—

Mr. GRAHAM (interposing). Are they malarial mosquitoes?

Mr. WHITMAN. I think not. I had more trouble with mosquitoes in the Yosemite Valley than in the Hetch Hetchy Valley. The Hetch Hetchy Valley is at a lower elevation than the Yosemite, and therefore can be used for longer periods of the year. Later in the fall it does not get so cold. One of the gentlemen from California, who would have liked to have been here, had quite an extended statement to present as to the use of the Swiss mountains during the winter, and the growing use of mountains in winter as resorts by the people as the country grows older. There is a growing tendency in that direction to visit the mountains in the winter. That is being done in the East in the case of the White Mountains. I have spent a number of weeks in the mountains in February, and if you open this park to the people of California they will go there in the winter, in the lower mountains, just as much as they now do in summer. Now, the proposition is, that if you close that valley you close it to the people. There is no place for them to stay. It is suggested in this bill that hotels and cottages may be provided. Why, great heavens, you would as soon undertake to put a cottage in the middle of this table as in that valley. That is a camping country, pure and simple, except as you go back to a place where a hotel might be located.

Mr. SINNOTT. How many head of horses would this grass in that meadow support?

Mr. WHITMAN. Other gentlemen who are familiar with farming must estimate that. I can only say that the meadow is a mile long and half a mile wide, covered with grass up to your waist.

Mr. SINNOTT. What kind of grass is it?

Mr. WHITMAN. I am not botanist enough to say, but it is an edible grass.

Mr. LA FOLLETTE. If this tract of 1,900 acres that is going to be flooded was used in the way you suggest, and the people should go in there with their horses, it would not last a week for feeding purposes. They would trample the grass down and probably kill it in one season, there would be so many horses going over a little piece of ground like that. Now, so far as congressional action upon this matter is concerned, I do not think that we should consider the relatively few people who would go in there, assuming that the people who did go in there would be those depending on grazing

their horses, as against the claims of those who would put this water to beneficial use. If Congress should consider how few people would go in there if they had to depend on grazing their horses on this meadow, I do not think they would give that proposition any serious consideration whatever, but would rather consider the claims of those who would use that water down in that valley to make corn, or the claims of those who would use the water for municipal purposes, if that purpose is so much higher than the use for the irrigation of farms. It occurs to me that these uses I have indicated are much higher than the use you suggest; that is, to provide pasture for the few head of stock that would be brought in there.

Mr. WHITMAN. I desire to say that I agree with you, and when the time comes that the use of this water is required by people outside for the raising of food products or for domestic purposes, that contention should prevail. It might be perfectly wise at some time to take steps which would flood that part of the valley.

Mr. LA FOLLETTE. Do you not think that if that valley was taken up for irrigation purposes—and I do not care whether it is for irrigation or for municipal purposes, because the result here would be the same—and if good roads should be constructed in there, or, as has been suggested, if a railroad should be constructed in there, don't you think if those advantages were provided that thousands of people would be enabled to view the beauties of this valley where perhaps only one can see it to-day?

Mr. WHITMAN. I am glad you asked that question, and I would like to address myself to that point. The city proposes to build some roads there. In the first place, it would be necessary for them to build some roads in order to get their materials in there and to reach the dam, but they do not build a single road except this one scenic road right on the north side of the valley. In the construction of that road it will be necessary to excavate the solid cliff a part of the way, and where does that road lead you? The bill is a little indefinite. This says 2 miles, but if it takes you 2 miles or any other distance it leaves you with a lake 300 feet deep on one side and a precipitous mountain on the other. I do hope they will give you room enough to turn around in order to return.

Mr. LA FOLLETTE. This bill provides that the Secretary of the Interior shall have authority to require the building of the roads; he can order them to build the roads or forfeit the grant.

Mr. WHITMAN. Yes, sir; but he can not change natural conditions. The fact remains that when you go in on that road you are left at the end of it with a mountain on one side and a lake on the other.

Mr. LA FOLLETTE. I may have misunderstood the gentlemen who have testified here, but I certainly understood the statement to be that you could go over this road to Lake Eleanor, and from there it would lead over in the watershed, and I suppose it would be a feasible road.

Mr. WHITMAN. If I do not misunderstand it, this scenic road would end somewhere near the end of the canyon——

Mr. LA FOLLETTE (interposing). All right.

Mr. WHITMAN. Up in the Grand Canyon where the Tuolumne comes down into the Hetch Hetchy Valley, and there you are left with the water on one side and a steep mountain on the other.

Mr. O'SHAUGHNESSY. Let me state that this road leads from the Hetch Hetchy Valley to Eleanor—

Mr. WHITMAN. Wait, please, until I finish my statement.

Mr. O'SHAUGHNESSY. But do not leave the committee under any false impression.

Mr. DECKER. What would be the end of it?

Mr. WHITMAN. I do not think that would be anywhere. It is proposed to cover the floor of the valley with water, and the road comes along the side of the valley above the water, in the cliff, and it does not lead anywhere. It certainly does not lead you to any available camping place.

Mr. STOUT. Is that part above the place where the lake is to be formed level ground?

Mr. WHITMAN. That place is rolling and mountainous, and in some places it is very mountainous. Up to the north end of it it is covered with woods.

Mr. STOUT. Toward the east?

Mr. WHITMAN. Toward the east it falls off very rapidly down toward the foothills.

Mr. STOUT. And toward the west?

Mr. WHITMAN. To the east it goes up into this rough mountainous country.

Mr. STOUT. And there is no level ground?

Mr. WHITMAN. No, sir; the cliffs up there rise 5,000 feet above your head.

Mr. TAYLOR of Colorado. The road would have to be constructed around the mountain; that is, it would have to be on a shelf around the side of the mountain?

Mr. WHITMAN. Yes, sir; and it is so shown here.

Mr. TAYLOR of Colorado. And wherever it stops would be some indefinite or undescribed point?

Mr. WHITMAN. Yes, sir.

Mr. RAKER. What do you mean by that statement? That is entirely one road clear around there. When Mr. Freeman made his report and specified it in the picture here [indicating], when he drew a picture and made a report saying that road could be built there, do you say that was done to deceive the committee?

Mr. WHITMAN. No, sir; you misunderstand me.

Mr. RAKER. That is in the report and in the picture. Is the report correct or incorrect?

Mr. WHITMAN. It is correct.

Mr. RAKER. Then the road could be built?

Mr. WHITMAN. Yes, sir; at a great expense. I am talking about the character of the road. The road Mr. Freeman proposes—

Mr. RAKER (interposing). Does not that go clear around the lake? I am talking about the Freeman report. .

Mr. WHITMAN. Yes.

Mr. RAKER. Upon which it shows clearly that the road can be built entirely around the lake.

Mr. WHITMAN. Yes, sir.

Mr. RAKER. And that is feasible and practicable?

Mr. WHITMAN. Yes, sir.

Mr. RAKER. Is it not a fact that the department has recommended that the Government expend in the neighborhood of \$700,000 to

build a road at the end of the Yosemite Valley, up along the mountain, to climb clear up over the viewpoint at Nevada Falls, and that it is proposed that the Government itself shall expend that money for that purpose?

Mr. WHITMAN. It may be so; I do not know. I am not familiar with that, but that does not affect the proposition I am now discussing.

Mr. RAKER. I want to know the difference between them. How does one differ from the other?

Mr. WHITMAN. Taking this road as now proposed leaves it going nowhere.

Mr. RAKER. But if the Freeman report is adopted and the road is built clear around, it will give access to the entire lake?

Mr. WHITMAN. Yes, sir; but that is all it does.

Mr. RAKER. It gives access to the people clear down the valley to Jacksonville, below Priest Hill, and clear up in the valley a distance of 43 miles or more?

Mr. WHITMAN. Yes, sir.

Mr. RAKER. And that is practically inaccessible at the present time?

Mr. WHITMAN. Yes, sir.

Mr. RAKER. With this road built connecting with the road from Jacksonville down in the valley, at least 20 miles to Priest Hill, and with the road around the lake, the people in that section will have easy access on a good road, which is something they have not to-day?

Mr. WHITMAN. Yes, sir.

Mr. RAKER. Making it accessible to thousands of people to go in there with teams where to-day they can only go in by walking?

Mr. WHITMAN. If you are speaking of people who are coming in that distance of 43 miles in automobiles and who will go out, that is true, but you are confining that to automobile people. If you are expecting the people living in that region to come up there in wagons, they will want to stay somewhere when they get there.

Mr. RAKER. If you go in from Jacksonville, you would have a good road connection, or if you came in from Stockton, you would come down a good road to the Jacksonville road. Now, people could stop at almost any place along there. There is plenty of water, plenty of farm houses, and plenty of camping places clear on until you get to Hog Ranch.

Mr. WHITMAN. Yes, sir.

Mr. RAKER. And that same condition will continue into the floor of the valley?

Mr. WHITMAN. The floor of the valley will be flooded.

Mr. RAKER. Until you get to the dam site. You do not intend to tell the committee that if you could go clear around this lake there are not communities and places that you could build cottages or small homes upon and that you could not drive a wagon off from this road and find a camping place?

Mr. WHITMAN. That is what I mean to say, and if you do not believe my statement, ask Mr. Marshall, the geographer. Bring him here and ask him, because that question was raised before Secretary Fisher. Mr. Freeman had this same indefinite statement about hundreds of places for campers, and Mr. Fisher asked them to go out with Mr. Marshall and have them pointed out, and they never came back.

Mr. DECKER. Have you been over it?

Mr. RAKER. Yes.

Mr. LA FOLLETTE. How many miles will it be necessary to travel after this lake is made before travelers would strike this country where they could camp? How many miles would they have to go on that road to find good camping ground?

Mr. WHITMAN. On this road they propose to build in the canyon I would have to guess at it, but I suppose it would be 20 miles through this steep, precipitous country, where it would be impossible to climb.

Mr. LA FOLLETTE. Do you mean they would go 20 miles with no camping grounds available?

Mr. WHITMAN. I think so. There is this road which they propose to build from the so-called Hog Ranch on to the dam. Now, down 1,000 feet below the dam, below where they propose to build another dam, you could find a camping site around there, say 3 or 4 miles back. People could camp in there, but there would be no special reason for it. It would be like camping in any other woods; you would not see anything of moment and there would be no reason to stay there. I take it that when people go into the mountains they want to see the mountain scenery.

Mr. LA FOLLETTE. As I understand you, there would be 20 miles of road along which there would be absolutely no camping ground?

Mr. WHITMAN. Yes, sir.

Mr. LA FOLLETTE. And that is the scenic road around the lake?

Mr. WHITMAN. There are no camping grounds there.

Mr. LA FOLLETTE. I want to know just what the putting of this reservoir in there is going to cut off from the use of the people.

Mr. WHITMAN. My suggestion is that you call on Mr. Marshall for further information. My proposition is that only the people who can and will go in there after this is done will be the people who have automobiles and who can make a long journey in and come out.

Mr. THOMSON. People could go in and camp near Hog Ranch, and they could travel up into this region for a day or two at the time—

Mr. WHITMAN. No, sir; that is a long way off on one side to the north, and what the people want is to go off eastward into the mountains. That is off to the north.

Mr. LA FOLLETTE. And that is 8 miles from the dam site?

Mr. WHITMAN. Yes, sir.

Mr. LA FOLLETTE. What kind of road is there from the dam to Hog Ranch?

Mr. WHITMAN. None.

Mr. LA FOLLETTE. What kind of road could be made?

Mr. WHITMAN. A good road could be made.

Mr. STOUT. Where do you camp in there now?

Mr. WHITMAN. At the present time you can not go in there with wagons. You can go in with horses and camp anywhere on the floor of the valley.

Mr. STOUT. And when the Government builds a road in there you will have the same difficulty?

Mr. WHITMAN. This present camping ground, 2 miles long and half a mile wide, will then be flooded by the water.

Mr. STOUT. And you will have to cover the 20 miles, as now, to get a good place to camp?

Mr. WHITMAN. No, sir; I think that the geography of this valley is clearer in my mind than in yours. The ordinary way of coming in at the present time is over the road known as the Big Oak Flat Road and taking a side road to the north to Hog Ranch, and from there coming in over a trail. That would not be a feasible way for the city to bring in its materials, so they propose to build an entirely new road up the river canyon, which is now wild and deserted.

Mr. STOUT. This will not preclude the building of another road, also, will it?

Mr. WHITMAN. No, sir. There is no doubt that the building of the roads which they propose will facilitate the ability to get in there, but my proposition is that they will find that there will not be any reason to go in there, except for people who want to go in and look at the lake and come out again.

Mr. KENT. Well, if it should be made a popular camping ground, what provision could be made for taking care of the people? The minute you popularize a camping ground and make it available for a vast number of people, you immediately destroy the very element which originally made it attractive as a camping ground, because you must provide camp regulations, install a water supply, provide sanitary arrangements, and then the character of the camping site is entirely changed.

Mr. WHITMAN. I suppose that applies to the Yosemite Valley itself, and yet large numbers do go in there, feed their stock, and camp at the present time.

Mr. LA FOLLETTE. A tract 2 miles long and half a mile wide would be only about 2,400 acres, and if a tract of that size was camped upon by a large number of people they would generate all kinds of filth and typhoid for the people below.

Mr. WHITMAN. That might be the fate of it, but it is the only camping ground in that part of the region, and it is the only spot open for the people.

Mr. LA FOLLETTE. I am willing to grant that, but I am looking at the matter from the broad viewpoint of the people. Not one hundredth of 1 per cent of the people of the United States will ever go in there. On the other hand, if one-fiftieth or a hundredth part of the people of the United States, or even of California, were to go in there, it would be a vast camp ground instead of a thing of beauty. That change would take place within a year. For that reason, looking at it from a practical viewpoint, I do not believe the people of the United States care very much whether it is kept for a playground or not, when in all probability only one one-hundredth of 1 per cent of the people of the country would ever go in there.

Mr. WHITMAN. I do not know how many people go in there, but I know there is only one place suitable for camping purposes.

Mr. CHURCH. How close is the nearest meadow from this place—how many miles?

Mr. WHITMAN. The nearest large meadow is at Hog Ranch.

Mr. CHURCH. Which is 8 miles away?

Mr. WHITMAN. Yes, sir.

Mr. CHURCH. How large is that meadow?

Mr. WHITMAN. It is a pretty good-sized meadow.

Mr. CHURCH. What is the nearest point to Hetch Hetchy where they grow hay?

Mr. WHITMAN. That is not a farming community, and I do not think there is any place where they grow hay.

Mr. CHURCH. Is any grown within 20 miles of the place?

Mr. WHITMAN. I do not think so. We went from Crockers, which is a station on the main road, and they may raise a little there.

Mr. STOUT. How many people visit this park?

Mr. WHITMAN. A large number visit the Yosemite National Park, six or seven thousand a year.

Mr. STOUT. I mean Hetch Hetchy.

Mr. WHITMAN. Hetch Hetchy is remote and it is very difficult to get there, and at the present time comparatively few visit it.

Mr. STOUT. A thousand people during the year?

Mr. WHITMAN. I should not think so.

Mr. O'SHAUGHNESSY. About 300.

Mr. LONG. The figures show 269 for one year.

Mr. LA FOLLETTE. If 7,000 people go into the Yosemite Valley, or if 15,000 could go into it, what do you think of the statement that the Government has been asked to build a road into this country at an expense of \$750,000? Do you think that the United States Government would be justified in setting aside that amount, or rather paying out that amount of \$750,000 to build a road into an inaccessible valley, when only that many people visit it?

Mr. WHITMAN. Perhaps not at the present time, but we are looking 100 years ahead now.

Mr. LA FOLLETTE. You are looking 100 years ahead for natural beauty, and I am looking 100 years ahead at the municipal water supply and at the requirements for irrigation in that country. I do not mean to say that I am looking at it from the viewpoint of the city, but from the viewpoint of whether or not it should be utilized to-day. Of course, if the city of San Francisco can show that they have any rights that are higher than those of the irrigationists, and that their water requirements represent the highest use, then they should have it. If I had my way about it, they would build the dam immediately as high as they could, to store every gallon of water flowing there, and if the city of San Francisco could acquire any right to it superior to those of the people in the San Joaquin Valley, let them have what they need, and then let the rest of it go to reclaim the San Joaquin Valley as soon as possible.

I can not believe that the flooding of 1,500 acres will destroy all that vast area of scenery. I think if they go in there to see it and if anything is said derogatory to the dam, their attention should be called to the fact that the water is required for the irrigation of thousands of acres of land, and is also required to meet the domestic and economic needs of a great city, and when they come to realize that I should think their æsthetic taste could stand a little shock.

Mr. WHITMAN. I do not think we differ much.

Mr. THOMSON. The only respect in which you differ is that you have not come to the point where you admit that there is any necessity for this higher use of the water.

Mr. WHITMAN. The time will come when the same demands will be made in the Yosemite Valley. There is a big river flowing through the Yosemite Valley.

Mr. TAYLOR of Colorado. Your idea is that there is no real necessity for taking this water?

Mr. WHITMAN. Yes.

Mr. LA FOLLETTE. The Army engineers and all the people who have given it thought and consideration say that this is a natural reservoir site; that it is the most available site where water can be impounded, and that it can be done more cheaply there than anywhere else. I think that is a much more important consideration than the argument that this meadow shall be kept for a pasture.

Mr. WHITMAN. If you could see that valley you would not have to be an engineer to be impressed with the availability of that place for a dam.

Mr. TAYLOR of Colorado. The same thing applies to the Grand Canyon of the Colorado.

Mr. WHITMAN. Of course.

Mr. LA FOLLETTE. Whenever the time comes that this water is of more use for municipal purposes and for the promotion of human life, I want it utilized to that end as soon as possible.

Mr. SINNOTT. Did I understand you to say that both of those meadows would be submerged?

Mr. WHITMAN. Not the upper part of them, but the whole of that one right there [indicating].

Mr. SINNOTT. But not this one [indicating on map]?

Mr. WHITMAN. There has been some talk of submerging them, but nothing definite. That has been one of San Francisco's plans in the past, to submerge that also.

Mr. LONG. Where does that appear in our plans?

Mr. WHITMAN. In the past you will find that was contemplated; you will find that in your earlier reports.

Mr. LONG. It has never been contemplated during my connection with the matter.

Mr. CHURCH. Did you say which one?

Mr. LONG. The Tiltill one.

Mr. WHITMAN. They own back to the Hetch Hetchy Valley floor.

Mr. STOUT. If they own it what is to prevent them from putting a board fence around it if they want to?

Mr. WHITMAN. That is quite true.

Mr. RAKER. That is a serious question, whether they can do it or not. There is no general pasturing in the Yosemite Valley, is there?

Mr. WHITMAN. I have seen it; yes, sir.

Mr. RAKER. Is it not a fact that in the Yosemite Valley they haul in about all the feed they use, both hay and grain, and that the only use that is made of the floor of the valley is for the pasturage of cows kept by the Army people as well as the few horses of the Army officers and troops?

Mr. WHITMAN. Well, I have not been there since 1909, but my impression is that the horses which were brought in for my party, something like 100 in number, were taken care of there.

Mr. RAKER. Taken care of at the stables?

Mr. WHITMAN. I am unable to answer that.

Mr. RAKER. And the hay is hauled in there?

Mr. WHITMAN. Of course, the Yosemite is now exceedingly available by railroads.

Mr. RAKER. I know; and it is available by wagon roads?

Mr. WHITMAN. Yes, sir.

Mr. RAKER. So they can haul their stuff in?

Mr. WHITMAN. Yes.

Mr. RAKER. I want to have it appear, if it is a fact, that they maintain stables there and haul their hay in.

Mr. WHITMAN. They do.

Mr. RAKER. And they feed the hay that is hauled in?

Mr. WHITMAN. Yes, sir.

Mr. RAKER. And the only use now made of the floor of the valley is for the pasturage of the few cows and horses maintained by the Army. Are there not many other places in the mountains that are now being used by campers?

Mr. WHITMAN. There are a number of small places available for a few people at one time; that is all, and those are away up in the mountains.

Mr. RAKER. Do you intend to say, from your observation, that if the Hetch Hetchy is used as a dam site, if the dam is raised as high as contemplated and filled with water, with a road around it, that there are no places immediately adjacent where campers could camp, houses be built, hotels be built, and hay and grain hauled in for the use of the people camping in there?

Mr. WHITMAN. You ask Mr. Marshall.

Mr. RAKER. No; I want your answer.

Mr. WHITMAN. My answer is this: That there is only one place where you can build a hotel, and that is spoken of in the bill; there is at the present time no water there, so that the bill provides that the water must be taken there; there are no places for cottages; there are no places where people could stay unless they went to that hotel, if anybody wants to build it, without going a great distance. Does that answer your question?

Mr. RAKER. No; it does not, because I do not believe you understand me. Do you say there is no ground level enough adjoining the lake?

Mr. WHITMAN. That is just exactly what I mean to say.

Mr. RAKER. Do you mean to say there are no places at which to construct buildings because it is too steep?

Mr. WHITMAN. Yes, sir; I have been there.

Mr. RAKER. And no place right below the dam either?

Mr. WHITMAN. No place right below the dam either; it drops off there 1,000 feet.

Mr. CHURCH. Right there let me ask you a question, if you please. You seem to be a mountaineer and I am somewhat of a mountaineer myself. Is it not a fact, in your judgment, that when the roads are opened into this Hetch Hetchy Valley the meadows, and whatever feed is in there, will be monopolized by the Army officers who will be installed there and who will have general supervision over the whole thing?

Mr. WHITMAN. Well, so far it has not been but, of course, when the Army is there it might be.

Mr. CHURCH. Has it not been your experience that in the Yosemite National Park the best meadows, the best feed, and the best springs are now monopolized by the Army officials and that those who come in must take a second place, as far as desirable camping places are concerned?

Mr. WHITMAN. Well, it has 1,500 square miles, and I would not say that.

Mr. CHURCH. Has not that been your experience in the park?

Mr. WHITMAN. No, sir; not in that park.

Mr. CHURCH. Has it not been your experience, in traveling through the Sierra reserves, that the best and most desirable meadows are monopolized by the various ranchers at the present time, and that the people who come in to pass through the country and to see the scenery have to take the second-class places instead of the first class places for feed and springs?

Mr. WHITMAN. Well, I have not seen quite enough of that country to answer your question intelligently. But to sum up, what I mean to say is that if those three red spots [indicating on map], those three valleys, were covered with water the use of that 1,500 square miles would stop, if you flood them all, and would stop proportionately as you flood any one of them.

Mr. LONG. Is it not a fact that the Tuolumne meadows belong to the Sierra Club?

Mr. WHITMAN. No; they own 160 acres; that is all.

Mr. LONG. They own a portion?

Mr. WHITMAN. One hundred and sixty acres, which they bought in order to preserve it.

Mr. LONG. How much is that of the whole?

Mr. WHITMAN. It is a valley 15 miles long and from a half mile to a mile wide.

Mr. LONG. To whom does the rest belong?

Mr. WHITMAN. I think it is public land.

Mr. LONG. And there is no intention on the part of San Francisco to use it?

Mr. WHITMAN. Not at the present time; but it was proposed in one of the earlier reports. Now, Mr. O'Shaughnessy thought I misrepresented him as to another road. Lake Eleanor, as you know, is off to the north; and if they are going to build a dam there, they have got to have a road there, and they do propose to build one; but why anybody should want to use it I leave him to answer. The trail from Hetch Hetchy to Lake Eleanor is as uninteresting as any trail I ever went over, and there is nothing to see from it.

Mr. O'SHAUGHNESSY. Lake Eleanor is a very beautiful lake; in my judgment, it is much prettier than Hetch Hetchy. I think it is one of the prettiest lakes I have ever seen in California, and I think many more people will go to Lake Eleanor than Hetch Hetchy; so I think a road between Hetch Hetchy and Lake Eleanor is very desirable.

Mr. THOMSON. Are there camp sites around Lake Eleanor?

Mr. O'SHAUGHNESSY. Yes, sir.

Mr. WHITMAN. You are going to flood them, are you not?

Mr. O'SHAUGHNESSY. Not all of them.

Mr. LA FOLLETTE. I have been looking at this book and it says:

View down the Poopenaut Valley and Reservoir site, taken from a point of rocks on the Hetch Hetchy Trail about 1 mile southwesterly from the Hetch Hetchy Dam site. The dam site for this small supplementary reservoir is in a very narrow gorge in the distant center of this view. The new wagon road is to run up the left-hand side of the valley. Flooding this valley floor would add to the scenic interest. The city desires the right to do this.

This, of course, is lower than the dam up above it, as I understand it. If there is no water in here [indicating] and if a road were built from this point up to this point in the Hetch Hetchy [indicating],

would it not be possible to run pipe lines from the Hetch Hetchy Reservoir into any part of this valley in order to have water for camping purposes?

Mr. WHITMAN. It looks very flat but it is very precipitous.

Mr. LA FOLLETTE. I was talking to a gentleman who said he has been in there and that there are good camping grounds, but no water. If there are good camping grounds but no water, it should be supplied for camping purposes.

Mr. WHITMAN. What prospect is there that anybody will go to that expense? May I say one more word? The city also proposes to build some trails. They propose to build a trail to Tiltill, in the Rancheria Mountains. Those names mean nothing to you. Now, the Government has built trails through this country pretty well, and I understand there is but one trail which these people propose to build, and I do not understand there is any particular difficulty in the construction of a trail. A trail is very easily and inexpensively built; it is the roads we are looking for.

The CHAIRMAN. The hour of 1 o'clock has arrived and we will take a recess until 2.30 o'clock. I will say to Mr. Whitman, however, that if he knows of any one who has knowledge of any irregularity, or who may have additional data that ought to be furnished to the committee, we will be glad to have him notify them and try to have them here on the 7th of July. I do not want to impose too much on him, but it is apparent to the committee, and undoubtedly to Mr. Whitman, that it is impossible for the committee to know about such persons and impossible for the committee to serve notice on 90,000,000 people to come here. Mr. Whitman has long been interested in this work, and if he knows of any one who would like to come before the committee we beg of him to notify them. I will promptly answer any communications that may come to me and shall endeavor to give everybody as much notice as possible.

(Thereupon a recess was taken until 2.30 o'clock p. m.)

AFTER RECESS.

The hearing was resumed at 2.30 o'clock p. m., pursuant to the taking of recess.

Mr. RAKER. Upon returning to my office I found a letter and telegram from Mr. Sullivan, which I desire to put in the record.

The CHAIRMAN. Is that a copy of the telegram that came to me?

Mr. RAKER. I do not know, but I suppose it is.

The CHAIRMAN. I think each member has one. I intend to put one copy of each of these telegrams in the record at the conclusion of the hearings. There are many of them of this same character.

Mr. GRAHAM. I think every member has gotten them.

Mr. RAKER. I just wanted to clear up the record. This telegram is dated June 23, 1913, and the letter is dated the 23d, and both reached me after the meeting this morning. I just wanted to make that statement and, of course, agree with you that only one copy of each telegram should be put in the record.

The CHAIRMAN. I think one copy of all these telegrams ought to go in, but I doubt the wisdom of putting in copies received by the different members. After consulting the files, and Mr. Campbell having told me that he has carefully kept each one of the telegrams

he has received, I do not find a copy of the telegram just referred to by Mr. Raker, and if he cares to do so he can put it in the record.

Mr. RAKER. As a matter of fact this telegram has not been here four or five days. It came in the mail to me and I did not get it until I returned to my office after the committee adjourned at noon. The postmark on it shows it was mailed on the 24th in San Francisco. The letter and telegram are dated the 23d.

The CHAIRMAN. I should not like to have the record show at this time that I did not receive it, because I scarcely think a man would send copies of a telegram unless he had sent it. It is possible that telegram was mislaid. I will have a thorough examination made and endeavor to ascertain whether it has been received. You may proceed, Mr. Whitman.

STATEMENT OF MR. EDMUND A. WHITMAN—Continued.

Mr. WHITMAN. Gentlemen, I will now address myself to the question of sanitation, whether the restrictions imposed upon the use of this portion of the park, for sanitary purposes, will prevent the substantial use of that watershed. I view these sanitary regulations with the greatest apprehension. I am not here to quarrel with the experts. I know men can quarrel with experts, but what I am fearful of is not that the regulations laid down by the experts are incorrect but that the public will not stand for them. And I am interested to see that my brethren in San Francisco entirely agree with me, because having employed Mr. Allen Hazen, whom they say—and I think they are correct in saying it—is one of the leaders of sanitation in this country, and having told Secretary Fisher that they would abide by the regulations which he suggested, they did not do it, because one of the regulations that he suggested, which is in the Army report, on page 32, was that no refuse, and so forth, should be deposited within 50 feet of a stream, but when they draw their bill, knowing the public of San Francisco will not stand for it, they change it to 300 feet.

Mr. LONG. Pardon me; we did not.

Mr. WHITMAN. Somebody has changed it.

Mr. LONG. That is different. We did not change that; it was changed by the department, and they insisted upon it going in; we had nothing to do with it. It is a regulation, they say, which is now in force in their national parks and they do not want to change that regulation.

Mr. WHITMAN. When it comes to taking one of those streams with precipitous sides, calling on people to go 300 feet away for any refuse, there is some difficulty in enforcing it, because, gentlemen, this territory is 500 square miles, and you get people scattered all over it, if they are camped, and how are you going to enforce these things? What sort of an army can be detailed to enforce them? The bill provides that there shall be nothing within a mile of the reservoir, no bathing, washing of clothes, or use of the stream within a mile of the reservoir. Will the public of San Francisco stand for that or will the public of the country?

On the first visit that I made into this territory, when up in the upper part of the watershed a horse went by with a boy lying on his back sick unto death. That boy died before they could get him out of this watershed. It happened to be pneumonia; but suppose it had

been typhoid fever, and it gets to the knowledge of the people of San Francisco that you have typhoid fever on the watershed; do you think that all the experts in the country could convince the people it was wise to have typhoid fever on the watershed, when they were drinking the water?

On that same visit, on our trip from the upper part down to Hetch Hetchy, we lost two horses by breaking their legs, catching them in the rocks, and both had to be shot and left there. There was nothing else to do with them. Now, I assume that in time the birds of the air would remove them, but let somebody go through there and see one of those horses in a decomposed condition, with the possibility that the next rain would carry it into the watershed, and let that knowledge get to the people of San Francisco, are they going to stand for any such thing as that? This is not a question of what an expert says is wise or unwise. It is a question of sentiment, what the public feels about it, what they are afraid of, and the great fears of the public. The gentleman from Oregon has already referred to what the people up there have succeeded in getting out of Congress in the case of the Bul Run water supply of Portland, a bill absolutely excluding everybody from that watershed. Not even a road can be built there. Are the people of San Francisco to have any less regulation than they have in the city of Boston? I have here before me the rules and regulations of the metropolitan water supply of Boston. Of course it is very much easier to enforce any rules or regulations in a settled country, such as there is about Boston, than there is away up on these mountains, over 500 square miles of rough country. These regulations not only provide that there shall not be anything within a mile of the reservoir and absolutely prohibit the taking of animals anywhere on the watershed, but, furthermore, as to the reservoirs themselves, that they are not to be used for boating or even for skating when there is ice on them in the wintertime. Do you think the people of San Francisco are going to stand for regulations which are so much more lax than those in Massachusetts?

Mr. GRAHAM. How far is the water supply from the city of Boston?

Mr. WHITMAN. I should think about 25 miles.

Mr. GRAHAM. They would have to be more particular where the catchment was so close than they would where it was 175 miles away?

Mr. WHITMAN. That is true.

Mr. GRAHAM. Water purifies itself in movement. Ordinarily, we are told, I think, that filth is eliminated from water in even 40 miles' journey in the open air.

Mr. WHITMAN. What the experts said before Secretary Fisher was that the great safety lay in the storage of water for some time in a large body like Hetch Hetchy; that when the water stands in a reservoir the germs are killed. We have a similar reservoir near Boston, where the dam is nearly 80 feet high, and the water stands there, but these other requirements are called for. I do not think it is a question of what the experts tell us; it is a question of what the great body of the people are afraid of. If you should get typhoid fever in San Francisco, the easiest thing would be to lay it to the use of the water, and you will have, 5 or 10 years from now, people from San Francisco coming to Congress and saying that "the science of sanitation has changed, we know more about it. See what is happening on this watershed. We want the same thing that you have

given at Bull Run to the city of Portland, Oreg." And what will Congress 10 years from now know about what actuated this committee? And when they look at the provisions of this bill they will find that in case of any change in the regulations the city of San Francisco must filter the water.

The San Francisco people say that it is going to cost \$10,500,000, and you ought not to ask us to spend that sum when there is an area with nobody in it, because if you flood the floor of the valley you cut out the people who go in there, and so far as the upper end is concerned, until Congress builds a better road than now exists, that must remain remote with only a limited number of people, and the cry will be made that the area has only a few nature lovers in the summer time and why not wipe it out and protect the health of the people of San Francisco? What answer could be made? Why should San Francisco spend \$10,500,000 when there are only a few people who go up to that country? What would the committee say? "Why, the committee 10 years ago seems to have been mistaken." If they are to spend \$10,500,000 for a filtration plant they might as well spend it now; and if they do, there is no difference in cost between this and the Sacramento project. The Army engineers figure \$13,000,000 difference, and taking out \$10,500,000 for filtration the cost is substantially the same.

If I may, I will take up the question of the report of the Army engineers. They are men of high standing in the Army, whose recommendations should receive the most careful consideration, and therefore I desire for a few minutes to analyze what they have had to say and the conclusions which they have reached, and to follow that up by a consideration of what Secretary Fisher thought about it. The Army engineers say, on page 35 of this report:

There can be no question but that a large portion, if not all, of the flow of the Tuolumne could be used for irrigation if stored.

And I am dwelling on this question of irrigation.

They say:

While the cost of placing the water on the land, especially when necessary to be pumped and carried to long distances, may be more burdensome than the land can at present stand, the increase in value will doubtless in the future warrant such expenditures. It seems quite certain that to irrigate the southern part of the San Joaquin Valley would be less expensive from the Tuolumne than from streams farther north, such as the Stanislaus, Mokelumne, and American.

Again, on page 37, at the top of the page, they say:

It is seen from this table that reservoir capacity exists for preserving sufficient flow for both city supply and irrigation, except in exceptional years, when irrigation would suffer.

They give in the preceding table a large number of reservoir sites outside of the Hetch Hetchy in this watershed which if not all used in dry years irrigation would suffer.

Coming down to their conclusions on pages 50 and 51, they say, at the bottom of page 50:

The Valley of the San Joaquin has less rainfall and less run-off from its rivers than the Valley of the Sacramento. The Tuolumne River could, if not used for city supply, be used to irrigate a large amount of fertile land, as could almost any river in the Valley of California if means are found economically to store the water.

The board believes that on account of the fertility of the lands under irrigation and their aridness without water the necessity of preserving all available water in

the Valley of California will sooner or later make the demand for the use of Hetch Hetchy as a reservoir practically irresistible.

For what? For irrigation. And yet in the face of this strong statement as to the needs of the valley for irrigation, they say, "Let us turn this over to the city of San Francisco for a water supply." Could there ever be a more lame and impotent conclusion from undoubted facts than that which these Army engineers have assigned?

What does Secretary Fisher say with relation thereto when this matter came up before him?

Mr. LA FOLLETTE. In fairness to the Army engineers we should take into consideration the fact that they said that the cost would be prohibitory under any present conditions.

Mr. WHITMAN. The part I have just read—they say in the future it might be worth while to do it.

Mr. LA FOLLETTE. No doubt they will in time.

Mr. WHITMAN. I suppose this committee is legislating for the future as well as for the present.

Secretary Fisher, having the report of this board before him, says this, on page 9:

I prefer not to express any conclusion based upon the report of the advisory board of Army engineers and upon my own investigation and consideration as to whether Congress should or should not expressly authorize the use of the Hetch Hetchy Valley by the city of San Francisco and its adjacent communities, because I have decided not to base any official action upon such a conclusion now and because if I were now properly authorized to take official action I would prefer to secure additional information and to give some further consideration to certain features of the matter before taking such action.

Mr. GRAHAM. What is the date of that report?

Mr. WHITMAN. March 1, 1913, three months ago.

Mr. GRAHAM. Secretary Fisher made that report just three days before he retired from office?

Mr. WHITMAN. Yes, sir.

He says:

Among these features—

Upon which he desires information—

are the bases and consequences of conclusions reached by the advisory board that—

"The use of the Hetch Hetchy Valley as a reservoir site is necessary if the full flow of the upper Tuolumne is to be conserved."

Evidently Secretary Fisher, with all his information at that time, was not satisfied on that point.

And that—

The San Joaquin Valley is relatively less well provided with water than the Sacramento Valley both as to rainfall and as to run-off of rivers. The demands of the valley for complete irrigation are in excess of the water available.

Those are the things where the matter being referred to Secretary Fisher for his action and where he finds that he has full power to act, if he sees fit, he says he does not think he should act until he gets more information. Gentlemen, are you in a better position to determine these questions than was Secretary Fisher three months ago, on March 1, after he had heard 10 days' discussion of the matter and had conferred with the Army engineers, had looked over all these reports, and then says that he needs more information? Have you

got it? Has anybody furnished you any more information on this point, as to why you should leave 160,000 acres arid forever in order to send that water to San Francisco?

One of the things which might be investigated very well is the question which has been suggested by Congressman Harrison, which I referred to early in the hearings, and which, I take it, Mr. Dennett will take up, as to what foothill reservoirs there are in which this flood water can be cheaply conserved with earth dams and concrete cores and used to irrigate part of the 160,000 acres, which is 250 square miles. Are you, on the information before you, to determine that question, when Secretary Fisher wanted more information than he had?

Furthermore, I asked the Army engineer one question, which, I think, goes far toward this question, whether the Eel River, which rises just north of San Francisco and now wastes its waters in the Pacific Ocean—not only its flood water but its regular flow—could be used for irrigation, and he said “No.” There are 200,000,000 gallons a day going to waste, and the country is now considering the doctrine of conservation—as to how California can best conserve its water. There is water which must go to waste unless it is used for domestic purposes.

Mr. FRENCH. Did not Col. Biddle state at the time you asked the question that it would be used for domestic purposes by towns now existing or prospective towns that may not be under a storage plan?

Mr. WHITMAN. I think not quite, because you will see from the figures that he could not mean that. He said that there were summer residents coming in. Two hundred million gallons a day is sufficient for 2,000,000 people, allowing 100 gallons a day, which is a little more than San Francisco is now using.

Mr. FRENCH. I just wanted to direct your attention to that particular statement. You recall that statement, do you not?

Mr. WHITMAN. He spoke of it as being a growing summer population, but when it comes to conserving 200,000,000 gallons of water, no summer population would use that amount unless the whole population of San Francisco moved out there.

Mr. RAKER. You are interested in conservation?

Mr. WHITMAN. In a general way, sir. We have not so much to conserve in my part of the country.

Mr. RAKER. I understand that is the position you are taking before the committee—the question of conservation?

Mr. WHITMAN. Yes, sir.

Mr. RAKER. You are acquainted with Mr. Gifford Pinchot?

Mr. WHITMAN. Yes, sir.

Mr. RAKER. Mr. Pinchot came before the committee and said this:

The most economical and really ideal conservation is the Hetch Hetchy project as against all others in California.

That seems to be his idea. In fact, the only matter he presented to the committee was that this was a great method of conserving the waters of California, and he said, after looking into all the projects and looking over the waters of the State, that by building the Hetch Hetchy dam and taking the water from there we would be doing real conservation and the only real conservation which could be done. Did you not understand him that way?

Mr. WHITMAN. He gave a pretty broad opinion on matters which, I think, he knew very little about, and let me speak of that, if I may. Mr. Pinchot has never visited this park. He has been a forester, and what knowledge he has about water supplies about California I do not know—I do not think it is very much—but Mr. Pinchot appeared here, sir, not as an impartial witness, but as one of the original Hetch Hetchy men, because, sir, after Secretary Hitchcock had refused this grant and after this committee of Congress had refused to make any favorable report, and after the supervisors had taken their plans away from Washington, then Mr. Pinchot writes to Mr. Manson, after Secretary Hitchcock's departure and resignation:

I want to call your attention to the Hetch Hetchy project, as we have a new Secretary, and while I can not forecast his action, I would advise you to make another application.

If it had not been for that letter of Mr. Pinchot's in 1906 or 1907, I do not believe we should have heard of this matter again, because the supervisors had given the matter up. Therefore Mr. Pinchot has been an advocate rather than an impartial witness.

Mr. PHELAN. Mr. Whitman stated that the supervisors had given the project up. The supervisors were under the régime of Schmitz and Rueff, and they gave it up for the purpose of promoting one of the other schemes. It was a part of the scandal in the life of San Francisco, and being under such corrupt pressure they could not have Hetch Hetchy. Of course as soon as they were removed from office Hetch Hetchy was revived.

The CHAIRMAN. They were all removed?

Mr. PHELAN. Yes, sir.

The CHAIRMAN. And some were sent to jail?

Mr. PHELAN. Yes, sir.

It was stated that this committee had adversely reported on this project. I do not recollect that.

Mr. WHITMAN. All my information on that point is contained in the statement which Secretary Hitchcock made in his letter to the President, if I remember correctly. That I have not here, but of course it is easily obtainable; a letter written some time in 1905.

Mr. PHELAN. I would like to ask if Mr. Whitman is familiar with Eel River, immediately north of San Francisco?

Mr. WHITMAN. I have never been there, but I have read and heard about it. I understand the distance necessary for the conduit would be 125 miles, and if it went around the bay, 135 miles, which is substantially less than the Hetch Hetchy line. It would follow along the line of the railroad, so the laying of the pipe for a large part could be much more cheaply done than where it had to be carted far away from the railroad, but no estimate of the expense has ever been made by the city or even by the Army engineers of that project.

Mr. PHELAN. It is a virgin country and railroads are now being built in it and they will need a water supply, not for the summer residents but for large communities. The principal city is Eureka and that is on the coast, without a railroad.

Mr. WHITMAN. There is very heavy rainfall up in that section also.

Now, Mr. Phelan and I can differ in opinion, and, perhaps, differ as to the facts, but the salient facts which I have stated there is no doubt about. They have not been investigated either by the city

of San Francisco engineers or by the Army engineers. You take the opinion of the Army engineers that there are 233,000,000 gallons available in the local supply of the cities around the bay and add the 200,000,000 gallons, and there are 433,000,000 gallons a day which the chairman of this board says would last for 50 years, at any rate.

Mr. LA FOLLETTE. In the report of the Army engineers in speaking of Eel River they say that it would be costly—

as this amount is not sufficient and as it would be unduly costly to develop it in connection with other supplies, it is not considered available and no estimate of cost has been made.

The CHAIRMAN. On page 83 there is a lot of matter on that subject also. I am wondering whether it is necessary for us to go into all these minute details on which a competent board has acted.

Mr. WHITMAN. There is a source for which no estimate of cost has been made.

Mr. LA FOLLETTE. The Army engineers say that it would be unduly costly.

Mr. WHITMAN. It is 50 miles shorter than Hetch Hetchy.

Mr. LA FOLLETTE. They say that it would be unduly costly, and I suppose it would be unwise in that respect.

Mr. WHITMAN. The 433,000,000 gallons from these two sources will cost \$24,000,000. To go 60 miles more from the Sacramento you get 493,000,000 gallons. But Mr. Freeman proposes to bring 540,000,000 gallons. A hundred years from now what does he propose to do with the 540,000,000 gallons? You will see on page 78 of his report that he proposes to use 441,000,000 gallons for domestic purposes and 95,000,000 gallons a day for irrigation. In other words, 100 years from now, after you have taken 400,000,000 gallons, he is going to use 100,000,000 gallons for irrigation, not up in the San Joaquin Valley, but around San Francisco, and there again is a question of conservation. Is it wiser to irrigate the San Joaquin Valley with the 95,000,000 gallons or should we irrigate around San Francisco? Are you gentlemen in a position to determine that question?

Mr. GRAHAM. Have you figured how much per acre that land which could be irrigated from Hetch Hetchy would be required to build a suitable dam?

Mr. WHITMAN. I am not an engineer and can not do that.

Mr. GRAHAM. Do you know it from any experience? The point I want to get at is, Would it be practicable for the city of San Francisco to erect a dam at Hetch Hetchy which would conserve all the flood waters and save them for use? Could the owners of the irrigable land below afford to do it, or would the expense be out of all proportion to the return?

Mr. WHITMAN. That, sir, is a question upon which Secretary Fisher evidently desired expert information. I can not give it to you, sir. I do know that there are some reservoir sites in the foothills where dams can be built comparatively inexpensively; not great concrete dams, but earth dams with concrete cores. How much they would hold I can not now tell you.

Mr. GRAHAM. But do you think it is real conservation to build them and have such experiences as they had at Johnstown, Pa., and in Ohio last spring, repeated in the valley there; to put up

temporary dams which under strain would give away and send a flood down the valley that would destroy not only property but lives?

Mr. WHITMAN. Mr. Dennett, sir, I think, can answer that question better than I, because I understand that those foothills are full of dams of just that kind for irrigation purposes. They have at La Grange, on this river, a great diverting dam, and they are now storing large quantities of water for irrigation purposes. I am not aware that the people of California have been in much terror of them.

Mr. GRAHAM. But the people who have suffered from such things were not in terror of them until the thing happened, were they?

Mr. WHITMAN. These reservoirs, however, I understand, are shallow as compared with this dam at Hetch Hetchy, which is to be 300 feet high.

Mr. GRAHAM. It seems to me the American people have had experience enough to teach them that temporary dams for reservoir purposes do not conserve in the end.

Mr. WHITMAN. That is an engineering question, as to how far the dams which are now being built are suitable for that purpose, which I am not prepared to give any light on.

Mr. LONG. I may say, in that connection, that the Great Western Power Co. is building a dam for power purposes at what is known as the Big Meadows; and the plans called for what is known as the "arch" type of dam, which is not a solid monolithic structure. But upon the complaint of the people of the valleys below, the State commission have ordered them to stop the building of a structure of that kind for a more solid one, adding \$1,000,000 or \$1,500,000 to the cost of the dam.

Mr. KENT. Would the Big Meadow Dam spoil the scenery?

Mr. LONG. It is supposed to.

The CHAIRMAN. I think we had better let Mr. Whitman conclude his statement.

Mr. WHITMAN. The Big Meadow Dam, as you know, would hold as much as Hetch Hetchy.

The CHAIRMAN. We will let Mr. Whitman proceed with his statement, as briefly as he can, so that we can get his views and then proceed to something else.

Mr. WHITMAN. The next question is on the relative cost. The city of San Francisco says that this is the cheapest place to go to. Of course, as Congressman Parsons has called to the attention of this committee, the cheapness is partly due to the fact that there are no water rights to be paid for here, because Congress has saved them that trouble by making this park. If this had not been a park, there would be water rights there; so that Congress has saved those rights, and San Francisco desires to have them given to it.

But apart from that the question of cost comes down to this: The next expensive project is the taking of water from Sacramento, which the Army engineers say, taking the whole project clear through for a hundred years, would cost \$13,000,000 more. So that the narrow question is, Should this reservoir site be taken away from the people in the first place and should the waters be taken away from the irrigationists in the second place, to save San Francisco \$13,000,000? And it is not necessarily \$13,000,000, because if this filtration proposition comes up that wipes out \$10,000,000 at once. And there are two ways in which filtration may come: In the first place, if Congress

sticks to this bill and does not change it, and the people of San Francisco desire and insist on further sanitary precautions, then under this bill they must spend their \$10,000,000 for filtration. On the other hand, their expert, Mr. Whipple, professor in Harvard College and one of the leading experts in sanitation in the country, testified that in his judgment San Francisco would filter with this Hetch Hetchy supply within 50 years, because it was the experience throughout the whole world that people were demanding better looking and better tasting water, and that even this mountain water would be filtered; all public supplies would be filtered; so that in his judgment as an expert filtration is inevitable for the city of San Francisco; it is simply a question of when it is going to come. Take that up, and you have a difference of about \$3,000,000, which in an expenditure as large as this is not a very substantial sum.

Mr. LA FOLLETTE. Considering that it is supplied to municipalities for drinking purposes, do you think that a system which was supplied by pumping water from a river below several cities, where the sewage and other refuse runs into the river, even though the water is filtered—do you think that such a system should be considered by Congress as on an equality with a system supplied from the high Sierras, or from the Coast Range, or any other high mountains, where the water has not been contaminated in that way?

Mr. WHITMAN. All I can say is that the experts, the Army engineers, say that it would be equally good water. You see what happens in the case of filtration; the water goes through a mass of sand and gravel, and when it emerges it is a clear, sparkling water which any sort of analysis, and every sort of analysis, finds to be entirely purified.

Mr. LA FOLLETTE. Here in the city of Washington they claim that their filtration plant is one of the best in the country. At the same time the reports show that in certain seasons there is more typhoid fever here than at other seasons; showing that even filtration does not eliminate typhoid fever altogether.

Mr. WHITMAN. I can not discuss that with you, because all I can do is to take what the experts tell us, that filtration does take it out.

Mr. LA FOLLETTE. I know; but we have to take facts along with expert testimony sometimes. I have known experts before now to be reversed, after a few years, and claims made that their testimony was altogether false.

Mr. WHITMAN. So have I; and that is the reason I am afraid of what these experts tell us, that these sanitation rules laid down here will be enough. I do not think they will be; and I think there will be a demand for more within a very few years, which will result in keeping people out of this park. I agree with you; only I do object to taking the word of the experts on one point and not taking it on another.

Mr. LONG. Is not that what you are doing, Mr. Whitman?

Mr. WHITMAN. No.

Mr. LONG. If the people of San Francisco are going to make this objection to the use of the upper Tuolumne region on account of defects in the water, how are they going to stand for taking the Sacramento River water; if the objection you raise concerning the attitude of the San Francisco people is to be considered, will it not be

even stronger against taking these low supplies, supplies from the valleys themselves, lying in more settled and civilized districts?

Mr. WHITMAN. Not after it is filtered.

Mr. LONG. In other words, you think they are educated to one thing but not to the other?

The CHAIRMAN. I think you had better proceed with more haste, Mr. Whitman, if you can.

Mr. WHITMAN. I want to get through, Mr. Chairman, but I do not want to scant the subject.

The CHAIRMAN. But you are consuming the time of the entire committee with this thing. You can readily understand that the time is limited.

Mr. WHITMAN. But I think, sir, that we are entitled to six hours to present our side.

The CHAIRMAN. But there are numerous others besides yourself who desire to be heard. There is Mr. Dennett still to be heard to-day; and we have agreed to hold the matter open until the 7th of July for others to be heard.

Mr. WHITMAN. How long have I taken so far, Mr. Chairman?

The CHAIRMAN. I have not kept a careful record of it; but you were on the stand yesterday, and all the forenoon and all the afternoon to-day. I do not want to be captious about it, but I will ask you to proceed as fast as you can.

Mr. WHITMAN. I suppose you would like me to answer the questions which are asked, as far as I can?

The CHAIRMAN. Yes. The committee itself is not without fault in the matter, I admit.

Mr. WHITMAN. Now, Mr. Hazen has himself been in some doubt about this Hetch Hetchy project, because he says on page 55 of this Freeman report:

These precautions which Mr. Freeman proposed to take by the closed pipe will cost a certain amount of money, and it may be that it proves to be better business, and in other respects more satisfactory to handle the water by simpler methods, with less expense, storing it in open reservoirs, where this is convenient, and then filtering the water before it is finally distributed to San Francisco. Filters for this purpose should be operated at a rather high rate, without coagulant, and the cost of filtering would be small.

So that their own experts contemplate this question of filtering.

The first installation of this Hetch Hetchy scheme, which will bring 240,000,000 gallons down to the bay, is put at a cost of \$37,500,000, and that is supposed to be good until 1947 before they have to do any more. The first installation of the Sacramento scheme, which is good to 1937 and which would bring 133,000,000 gallons of water, is put at \$33,000,000; but that is divided into an actual outright expenditure of \$19,666,000 for construction, and the remainder is capitalized as the annual cost for pumping and filtration. That is not an expenditure. So that the city of San Francisco in going to Hetch Hetchy must raise in actual cash \$37,500,000 to begin with for its first installation. To go to the Sacramento it raises less than \$20,000,000, and the rest of it is paid a few cents at a time by each water user in the form of water rates.

There is, however, another question which has arisen here without much discussion, and that is the question of power. The San Francisco people propose to get power which the engineers say is worth

\$45,000,000, which, on Mr. Pinchot's plan of conservation, would be sold and the money used for the benefit of the entire country. I have no doubt, sir [to Mr. La Follette], that you do not agree with that, and I do not know that I do myself; but that is Mr. Pinchot's "conservation" theory. But the city is asking for \$45,000,000 worth of power, and for what? I said four years ago that there was "a nigger in this woodpile," and the San Francisco people denied it. Mr. Manson figured in the early days that the city could save \$300,000 a year by electric lighting its own streets and buildings; and now they propose to get power enough to enable them to operate every municipal scheme ever heard of anywhere. They have already the Geary Street Railroad, which is a municipally owned institution. If they have all this free power, you will have municipally owned railroads, electric lights, and everything else, furnishing light, etc., to consumers at cost. I have no objection to the city of San Francisco trying as many experiments in municipal ownership as they see fit, so long as it is not at my expense or at the expense of the people of this country. With power as cheap as that, and coming at no substantial cost, except for the interest on the transmission lines, how can the people of other cities compete? With free power or cheap power to the manufacturer of San Francisco, how can the manufacturers up in Puget Sound compete, when they are in the grip of a Boston corporation which has all the water power in its control?

MR. GRAHAM. They can compete by breaking up the Boston monopoly.

MR. WHITMAN. Well, that might do in one way. But there is that condition to be considered. But as to this transmission, nobody has said anything about the expense to the city of San Francisco. Mr. Freeman says—

MR. SINNOTT (interposing). Just a moment. What is the objection to this development of power?

MR. KENT. Had it better go to waste than be utilized for the benefit of those particular people?

MR. WHITMAN. That is a question of conservation—whether it should go to the benefit of the people of San Francisco at the expense of the people of this country.

MR. KENT. As I understand it, the rules and regulations that would apply on this project are exactly the same as those that apply to private enterprises.

MR. WHITMAN. I think you are mistaken.

MR. KENT. No, that was Mr. Lane's statement.

MR. WHITMAN. No; let me correct you, because the bill states that those charges are to be made only in cases where the power is sold to consumers, and they will vary according to the rate charged to the consumers. If they sell at cost to the consumer, the rate returned to the public is very small; and Secretary Lane was unwilling to make any estimate whatever of the amount the Government would get for it. But where the power is used for the municipality, the Government gets nothing at all, whether it is for running electric roads or for lighting streets.

But as to the cost of this transmission line, which is to be added to the cost of this Hetch Hetchy scheme, Mr. Freeman is unwilling to make any estimate; he simply says, on page 31, that it would cost a great deal of money.

I am very nearly through, Mr. Chairman, but I would like to refer a little to the history of this thing, because I have not been quite able to agree with the statement made by Mr. Lane. This matter was heard before Secretary Hitchcock, was reheard, and then abandoned. And then he says that there were full hearings before Secretary Garfield in San Francisco. Well, that is not the way I read the stenographer's report. I will read from that report. Mr. Taylor, then mayor of San Francisco, said this:

Now, as Mr. Phelan has well said, nothing at all is determined if you should grant this permission as to San Francisco's future water supply; nothing at all. You are giving San Francisco the privilege of using it if she, upon examination, determines she wishes to, and she will ask the citizens at some future time to determine between this particular source (Hetch Hetchy) of water supply and other sources, which doubtless will be submitted to the people. But if you refuse this application of the city for this right of way it will undoubtedly cut out the people from passing upon the question as to whether or not they shall use this source of water supply. Now, that is all the city asks, that this source of water supply be put up in such a condition that the citizens at the proper time may determine between this source and other sources.

And Mr. Garfield says:

The city says to me now, "We want to have the opportunity of considering whether we shall consider available a water supply in this particular territory," and I think I will confine the hearing to this proposition.

Well, then he made his finding, in which he says:

I do not pass upon the question of whether this is the only available water supply. I take it that when the officials of San Francisco say so, that is enough.

Six months afterwards there was an election in San Francisco, and instead of the citizens being educated and informed on various water propositions, and asked to vote as between them, the single proposition was put up to them, "Do you wish to go to the Hetch Hetchy or not?" And the last page of the circular which was sent out had this picture of the Hetch Hetchy Dam, showing how cheap a place it would be to dam.

I say that the city of San Francisco has never considered, and has never been educated to consider, any other proposition than this alluring one of taking the melting snow on the mountains and getting it in the form of water out of their faucets in their homes in the city. The people of the city, if I may say it, are essentially hysterical on the subject.

Then the question came up before Secretary Ballinger, after this order of Mr. Garfield's, because there he reserved the Hetch Hetchy site until these other supplies at Lake Eleanor and Cherry Creek had been utilized, and the question arose whether those were necessary. And he had an investigation made by the Geological Survey, the Director of which, Mr. Smith, testified here. The investigation was to determine whether the Lake Eleanor and Cherry Creek supplies, eliminating Hetch Hetchy Valley, would give all the city wanted—and all the city claimed to want at that time was 200,000,000 gallons a day, although they were providing for 40 or 50 years. That matter was investigated by engineers of the Reclamation Service. Mr. Smith says that the city sets up and claims, first, that the Tuolumne River constitutes the only practicable and reasonable source of water supply for San Francisco; and he says, "In that, in my opinion, it is not justified." Then he goes on to consider the question, and says:

Such adequacy must be measured in the light of the future needs of San Francisco and the bay cities which may possibly at some time unite for a metropolitan water

district. While it is difficult to estimate for 40 or 50 years, the conclusion of the engineers named, which has my full concurrence, is that the Lake Eleanor project is amply sufficient to meet the present and prospective needs of the city, and it is not necessary that the Hetch Hetchy should be available to San Francisco for the purposes of a municipal water supply.

His figures were that there were at least 250,000,000 gallons which could be obtained from this other supply; and the city was in distress to know what to do, and they wanted time, and they got a year in order to investigate, and the Army engineers were to investigate with them. Investigate what? Whether there was any other available source. That was the single question which was referred to these Army engineers. And these investigations have been made for that purpose, and the Army engineers reported fully.

And the Secretary of the Interior said in leaving it that way:

In other words, we want to know what is necessary as far as the Hetch Hetchy is concerned. If we are up to a question of elimination, the question the Government wants to know about and the question the American people want to know about is whether it is a matter of absolute necessity for the people of that city to have this source of water supply. Otherwise, it belongs to the people for the purpose for which it has been set aside.

Now, in their distress they turned to Mr. Freeman, and Mr. Freeman said:

Why, this is easy. You people have been looking forward for only 40 or 50 years, which is perhaps what engineers usually do for a water supply; but you can fix this thing by looking forward 100 years and guessing what the population of San Francisco is going to be a hundred years from now and planning now for a hundred years away. And then you can figure on 400,000,000 gallons a day.

And so when Mr. Freeman comes to report on the question which had been referred to him, as to whether there were other water supplies, he comes and says, "Why here, the city of San Francisco should figure on a hundred years rather than fifty. We have got enough water for 50 years."

And the question arises for this committee to determine as to whether that is as far as this committee thinks they ought to go; whether in all practical human knowledge 50 years is not enough to figure on, leaving the next 50 years to take care of themselves.

So far as this Garfield permit was concerned I may say, by the way, Mr. Chairman, that the filings to which you referred made by Mayor Phelan ten or a dozen years ago, have no bearing upon the question before you now, because the rights which are being asked for by the city here are so far in excess of anything covered by those filings, and the new plans cover so much more than the old plans, that you have got an entirely new question, and those filings are out of date. So that you are being asked to grant water without any filings, or valid filings, so far as this application is concerned. When Mr. Ballinger took this thing up, the delegation of the city, I understand, called upon President Taft, and when Mr. McCarty, the mayor, got back to San Francisco the newspapers, I believe, reported that President Taft has told him that the whole Garfield permit was not worth the paper it was written on.

Mr. GRAHAM. Told him what?

Mr. WHITMAN. That the Garfield permit was not worth the paper it was written on.

Mr. GRAHAM. There is no record of that, I suppose?

Mr. WHITMAN. Nothing, except what appeared in the San Francisco newspapers. The Army estimate on page 129 gives the Tuolumne-Cherry supply at 255,000,000 gallons. Now you are asked to provide not only for San Francisco but for the bay cities, and I do not mean to say that it is not wise to do that. But the bay cities are not here under any act of the State of California. This act about water districts is nothing new. They have had three of them in California. Each time the matter has come up they have got a new act. When Secretary Hitchcock took the matter up in 1903, they had an act passed.

Mr. LONG. No; you are mistaken.

Mr. WHITMAN. No; the act was passed in 1903.

Mr. LONG. You are mistaken.

Mr. WHITMAN. I will give you the reference. Then, when the matter came up before Secretary Ballinger, they had an act in 1909 and one in 1911. Now, during all those years the cities have never voted on the proposition. It is true that you have here resolutions from mayors and boards of supervisors, etc., but they never formed any district. If San Francisco gets this water I defy anybody to take those statutes and read them and see how the other cities are going to get in if San Francisco does not agree to take them. The statutes will speak for themselves, and I can not agree with Mr. Long's interpretation of it and I do not believe any other lawyer will.

Mr. LONG. If we can not agree, we will have to disagree.

Mr. WHITMAN. But he referred to the city of Boston, which has one of these water-district acts, and which has organized in conformity with that. The situation there is entirely different. There a water district was formed under an act of the legislature. They had authority to spend the money as a district, by a metropolitan commission, and to put in those big works up in the central part of the State. And then the cost was equitably distributed around among the various districts by a commission. My own town, Cambridge, did not come in. They had their own supply; and we are told now, when we are short of water, "You can not even buy water from the Metropolitan Water Commission; you must take care of yourself. The only way you can come in is by throwing away your own supply in Cambridge and paying a heavy charge to come in."

Well, Mr. Long thinks they can work out some other and different plan. They have not worked it out. The water district is not here, and there is no telling that it will ever come in, or that they will ever vote for it. There are certain jealousies around the city of Boston, so that various outside cities, such as my own, fear annexation, and you can not get them to agree; they do not want to be swallowed up. I am told that the same sort of jealousies exist around San Francisco, and it may be very difficult to get a water board.

Something has been said here about the large sum of money which has been paid, and that this was paid on account of the Hetch Hetchy. Now, Mr. Long will remember that on page 14 of this report of the hearing before Mr. Ballinger he called especial attention to the fact that the city had been very careful in its last vote for \$45,000,000 of bonds, to leave out the name "Hetch Hetchy" and to put in Lake Eleanor, so that the public in voting \$45,000,000 of bonds have not voted that sum for Hetch Hetchy; they have voted

it for Lake Eleanor. I think I am correct on that, am I not, Mr. Long?

Mr. LONG. No; you are mistaken, Mr. Whitman.

Mr. WHITMAN. I read from your statement on page 14:

In order to remove that suspicion, when the board of supervisors submitted this water-supply proposition to the people last January, it eliminated all reference to the Hetch Hetchy, and referred in terms to the waters of Lake Eleanor as a supply.

The CHAIRMAN. What is that you are reading from?

Mr. WHITMAN. This is the report of the hearing before Secretary Ballinger.

Mr. LONG. That was done at the request of Mr. Ballinger.

Mr. WHITMAN. No; I think there was none.

Mr. LONG. There was a request made by Mr. Ballinger of the city that they would do that.

Mr. WHITMAN. It does not say so here.

Mr. LONG. I stated that at the time.

Mr. WHITMAN. Then let me go back and read a little further:

We have followed the suggestion made by those in authority that the use of the name "Hetch Hetchy" was considered by the people of San Francisco who in the first instance opposed any use by the city of the Hetch Hetchy Valley as an evidence of bad faith on the part of the city, and in the minds of those in opposition the constant reference to the Hetch Hetchy Valley convinces them that San Francisco's immediate designs were upon the Hetch Hetchy Valley itself, and that it had no intention of complying with the terms of the grant compelling the city to first utilize the Lake Eleanor watershed.

And then follows about the request.

Mr. LONG. And I also call your attention to the following statement which I made, which occurs on the same page just before what you have read:

We have always considered, and have expended large sums of money upon the theory, that this was one comprehensive scheme. We would have much preferred, and desired very strongly, indeed, that we should first be permitted to utilize the Hetch Hetchy Valley. That was denied us and we were given the grant to Lake Eleanor. We have gone ahead and complied as best we could with the conditions imposed by the Government in that grant. We were compelled under the terms of that grant to, and one of the conditions was that we should, secure all the land lying in the Hetch Hetchy Valley then held in private ownership, which amounts to about two-thirds of the floor of the valley.

We have secured that land and it now stands in the name of the city and county of San Francisco. We were further compelled, before we would be permitted to submerge the floor of the valley, to secure certain lands held in private ownership outside the floor of the valley, and the agreement was made on the part of the Interior Department that the department would recommend to Congress an exchange of lands, the United States granting or transferring to the city and county of San Francisco the remaining portion of the valley, which was public domain, and in return the city and county of San Francisco was to deed to the Government that portion which it had purchased outside of the floor of the valley, which would be accessible to campers and would provide a camping ground for all who might seek to come into the valley.

The city has acquired both tracts of land. The bill or the resolution providing for the effectuation of the exchange failed of passage, or rather was not given a hearing on the floor. It got out of committee in the House of Representatives and failed of report in the Senate.

Now, as I said before, the city has gone ahead and expended large sums of money, relying on the good faith of the Government and believing that the same degree of good faith which the city has attempted to observe would be observed on the part of the Government.

I stated at that hearing that the omission of the name "Hetch Hetchy" by the city was at the request of the Secretary of the Interior.

What I stated at the hearing was, not that it was at the request of "those in authority," but it was the request of Mr. Ballinger himself.

Mr. WHITMAN. But that was not the point I was making. It is entirely immaterial at whose request it was.

Mr. LONG. I merely wanted to show that we were acting in good faith.

Mr. WHITMAN. So that this money that you have expended was expended for the scheme at Lake Eleanor, which is still in existence.

Mr. LONG. Proportionately.

Mr. WHITMAN. And I take it that you have spent \$600,000, and that between \$400,000 and \$500,000 of that went largely into the pocket of a gentleman named John Hays Hammond, who is not unknown here in Washington.

Mr. LONG. And was not at that time.

Mr. WHITMAN. And was not at that time. But I am not aware that his influence did you any particular good.

Mr. SINNOTT. What was that money paid from?

Mr. WHITMAN. It was paid out of the city funds for certain rights along Lake Eleanor.

Mr. SINNOTT. Who handled it? To whom was it paid?

Mr. WHITMAN. Mr. Hammond.

Mr. LONG. Not to him personally.

The CHAIRMAN. He sold the rights?

Mr. LONG. They were held in the name of a water company in which he was said to have a large interest.

The CHAIRMAN. Let us pause a moment and see what that transaction was. Did Mr. Hammond sell the city some land?

Mr. WHITMAN. It was done by a water company of which he was the largest owner.

The CHAIRMAN. Did they buy the land?

Mr. LONG. Land and water rights around Lake Eleanor and the Cherry Valley.

The CHAIRMAN. Is the committee to understand that there was something "crooked" about that land deal? Let us not proceed by innuendo. Let us get the facts; if there is anything wrong the committee ought to know; let us bring it all out on the record.

Mr. WHITMAN. Well, there were land and water rights situated 20 or 25 miles from any road or railroad, where, I take it, under the California law they must be prosecuted with diligence in order to be secured—away back in the mountains; and I say, advisedly, of no particular use to anybody, except at a vast expenditure of money; and under those circumstances the city paid between \$400,000 and \$500,000 for those lands and rights. Now, there is no innuendo except as those facts speak for themselves.

The CHAIRMAN. Well, were they worth that, or were they not?

Mr. WHITMAN. Well, the committee can judge as to the remoteness of them.

Mr. TAYLOR of Colorado. Were they just filings, or had they any tangible existence? Had they complied with the law for the appropriation and utilization of the water?

Mr. LONG. Oh, yes; there were a lot of water rights and filings. I will have a lot of maps here before the hearings close showing them.

Mr. TAYLOR of Colorado. How much land did the city get as a result of that transaction?

Mr. LONG. Two or three thousand acres, I think. I am speaking approximately. I think about 2,000 acres, with the proviso that we were to have certain water rights which had a value. We were negotiating. In fact, I commenced a condemnation suit at the request of the Secretary of the Interior, who said all these rights should merge into the ownership of the city of San Francisco, and not be held in private ownership; and about the time we were negotiating and hoping to get a cheaper price we were served with an order to show cause why Hetch Hetchy should not be eliminated from the Garfield permit; and right after that the purchase was made.

Mr. GRAHAM. Mr. Whitman, what inference would you have the committee draw from the facts you have stated? Of course, you are too good a lawyer to make a statement of facts without having a purpose. Now, what inference do you think we should draw from the facts you have stated?

Mr. WHITMAN. The inference I should draw if I was on this committee is that those rights were sold for a very much larger price than they were worth; a very much larger price than the owners would have gotten from anybody else.

Mr. GRAHAM. And beyond that, why was there a larger price given for them than they were worth? What is the inference which was drawn on that point?

Mr. WHITMAN. Well, the inference which was drawn in San Francisco, as I heard it, was that they thought they might get some influence with the administration.

Mr. GRAHAM. Then your thought, fully expressed, is that they paid the person who had the right to sell this property more than the property was worth in order to get his influence with the administration?

Mr. WHITMAN. Yes, sir; but they wasted the money.

Mr. LONG. Do you think we ever got that influence?

Mr. WHITMAN. I do not think you ever did.

Mr. LONG. I do not think we ever had such a thought.

Mr. WHITMAN. A few words in conclusion, gentlemen: You are asked to consider this park as it is at present, with almost nobody using it. Very little attention has been given to what may happen to this park by the year 2000. On the other hand, the city desires to focus your attention to the year 2000 for its water supply. They are getting along and can get along perfectly comfortably for a good many years for their local supply, but it is the year 2000 they want you to look to. If you look to the year 2000 in one way, I pray you to look to it in the other. What will that park be and what will the use of it be to the American public, winter and summer, in the year 2000?

Now, I have said nothing about nature. I have tried to put this thing on a practical ground, which will appeal to the American citizen, and I do not want to add anything as to nature. But I have a letter here addressed to the chairman of this committee from Robert Underwood Johnson, who was, with Mr. John Muir, the original cause of the establishment of this park, and he has put this matter so ad-

mirably in his letter that, as a few concluding words, I should like to read it. There is not very much of it. He says:

NEW YORK, June 25, 1913.

HON. SCOTT FERRIS, M. C.,

*Chairman House Committee on the Public Lands,
Washington, D. C.*

DEAR SIR: I thank you for the courtesy of your telegram of the 23d informing me of the plans of the committee for the hearings on the bill of Mr. Raker (H. R. 112) to grant the Hetch Hetchy and Lake Eleanor Valleys to San Francisco for reservoir purposes.

I deeply regret that pressing private business here makes it apparently impossible for me to appear in person before the committee. I therefore respectfully submit for the consideration of its members some points which I think germane to the bill. My remarks will deal not with mechanical data, but with what I and I believe the vast majority of the intelligent public regard as higher and not less pertinent considerations.

There never was a time when there was a more urgent necessity for our country to uphold its best ideals and its truest welfare against shortsighted opportunism and purely commercial and local interests. The history of the country presents a thousand examples of the sacrifice of the good of all to the advantage of a part, and the waste of national resources at the dictation of selfish parties under specious pretexts. The enormous amounts of money lost to the Government for the enrichment of individuals in the careless disposition of the public lands and forests would have liquidated the public debt a hundred times over and have made life easier for every citizen of the United States in the past century and down to the present day. It is the subordination of the ideal to the material, the greater future to the lesser present, that has set us apart as the most wasteful and imprudent of nations. In 1889-90 came an awakening, largely through the efforts of John Muir, discoverer of the great Muir Glacier, a man combining in himself the ideal and the practical as have few men of our day. It was he who awakened the administration of President Harrison to the necessity of conserving the public forests instead of giving them over to the tender mercies of the chance comer.

The first step of importance in this awakening was the establishment of the Yosemite National Park, which led to the immense reservations made by the Harrison administration under the law of March 3, 1891, and to further reservations by each succeeding President, until at last the headwaters of all the great western streams are measurably secure against the perils of forest denudation. I think it is not too much to say that no Representative should consider himself competent to decide a question involving the dismemberment of a great national park until he has read the book of the late George P. Marsh, formerly American minister to Italy, entitled "Nature as Modified by Human Action," a work of singular imaginative force, in which the author, as early as 1850, pleaded with his countrymen to put an end to the passive policy of forest destruction, from which every Mediterranean country has suffered disastrously. Unless one can view the subject in the light of history and with the eye of imagination, he will remain indifferent to the large considerations involved in giving away to a corporation the use and control of fully half of the most beautiful of all our national parks.

What is at stake is not merely the destruction of a single valley, one of the most wonderful works of the Creator, but the fundamental principle of conservation. Let it be established that these great parks and forests are to be held at the whim or advantage of local interests and sooner or later they must all be given up. One has only to look about him to see the rampant materialism of the day. It can only be overcome by a constant regard for ideas and for the good of the whole country now and hereafter. The very sneers with which this type of argument is received are a proof of the need of altruism and imagination in dealing with the subject. The time has not yet come to substitute for our national motto those baleful words, "Let us eat, drink, and be merry, for to-morrow we die."

The opponents of the Hetch Hetchy scheme maintain that their position is not inimical to the true interests of San Francisco. They say if there were no other source of good and abundant water for the city they would willingly sacrifice the valley to the lives and the health of its citizens. The records of the hearing before the Senate Committee on Public Lands two or three years ago shows that two official representatives of the city (one, ex-Mayor Phelan) confessed that the city could get water anywhere along the Sierra if she would pay for it. This is the crux of the whole matter. The assault upon the integrity of the park has this purpose—to get

something for nothing. Mr. Freeman, the engineer employed by the city, has also stated that it is physically possible to get water anywhere along the Sierra. The elaborate published examination of the Hetch Hetchy resources bears the proportion, let us say, of 30 or 50 to 1 to all the information concerning other sources. It has not been demonstrated that Hetch Hetchy is the only available source, but only that it might be the cheapest. On this point we hold that while we are willing to die for the lives or the health of the citizens of San Francisco, we are not willing to die for their pockets.

We believe, moreover, that a larger measure of attention should be given to the question of filtration. I have already called your attention to the system in operation at Toledo, under which typhoid fever has almost disappeared, and to the abandonment by the city of London of its project of a supply from the Welsh Mountains in favor of the same system of filtration. I earnestly suggest that the advantages of this method be made the subject of an official examination during the present summer by United States Government experts, for if such a system be feasible, it would be folly to destroy the valley and dismember the park to have it discovered later that they must, after all, be abandoned for a method both better and cheaper.

The opponents of the bill invite your careful attention to the fact that whereas at first the scheme was put forward as one appealing to humane instincts—to provide a great city with potable water—it is now clearly seen to be aiming at quite another purpose—the production of power for use and for sale. This is commercialism pure and simple, and the far-reaching results of this disposition of the national parks when the destruction of their supreme features is involved, is something appalling to contemplate.

I have not yet spoken of the great recreative, curative, and hygienic uses of the park. It contains three considerable camping spots—the Yosemite Valley, now greatly crowded every summer; the Tuolumne Meadows, and the Hetch Hetchy. The second is much more difficult of access than the third, and both would be withdrawn from public use by the operation of the proposed bill, for it would be idle to take the valley for a reservoir without giving to the city full control of the watershed, since a single case of typhoid infection would endanger the health of the city. The population of the San Joaquin Valley, in the hot and dusty summer, increasingly frequent the park as campers. These would be deprived of the use of these wonderful scenes. As for the general public of travelers, that take so much money to California in quest of beauty—for it, there would be only a phantom valley, sunken, like the fabled city of Brittany, while the 20 miles of the most wonderful rapids in the world, the cascades of the Tuolumne, would be virtually eclipsed. I am aware that in certain quarters one who contends for the practical value of natural beauty is considered a “crank,” and yet the love of beauty is the most dominant trait in mankind. The moment anyone of intelligence gets enough to satisfy the primal needs of the physical man, he begins to plan for something beautiful—house, grounds, or a view of nature. Could this be capitalized in dollars, could some alchemy reveal its value, we should not hear materialists deriding lovers of nature, with any effect upon legislators. Without this touch of idealism, this sense of beauty, life would only be a race for the trough.

I have only time for one other point. In 1890 when I appealed to Senator George Hearst to support the bill creating the Yosemite National Park, a project which, as is well known, was first proposed by me to Mr. Muir in 1889, and was jointly urged by us upon Congress, that practical Senator assented with alacrity, and in effect said: “The chief use of that region is for water for irrigation purposes and for its scenery. It has been prospected over many times and there are no precious metals worth speaking of. The forests are more valuable to hold water for irrigation than as timber. Indeed I should favor reserving the whole of the Sierra down to Mount Whitney.” I reported this last remark to Gen. Noble, President Harrison’s Secretary of the Interior, and toward the close of the administration the whole of that region was reserved. I believe California would not consent to give up the great reservations. Moreover, I believe that the people of the State are opposed to the destruction of the Hetch Hetchy, and that this can be demonstrated if the bill can be delayed until the December session.

I have the honor to remain, respectfully, yours,

ROBERT UNDERWOOD JOHNSON.

Mr. WHITMAN (continuing). Mr. Johnson, as you all know, has been for many years the editor of the *Century Magazine*.

In conclusion, I wish there was some way in which this committee could see the Hetch Hetchy Valley itself. Mr. Ballinger and Mr. Fisher both went out and looked at it, and if you should see it for

yourselves I know you would have an entirely different view of it than my poor efforts have been able to give you. I thank you very much for your kind attention.

The CHAIRMAN. Mr. Whitman, may I ask you a few questions?

Mr. WHITMAN. Certainly.

The CHAIRMAN. I have not interrupted you very much. You are aware of the fact that, right at the beginning of the hearing, we called here the Secretary of the Interior and the Secretary of Agriculture?

Mr. WHITMAN. Yes.

The CHAIRMAN. And the Director of the Geological Survey?

Mr. WHITMAN. Yes.

The CHAIRMAN. And the Director of the Reclamation Service, and the Chief of the Forest Service, and Hon. Gifford Pinchot, said to be the best authority on conservation in the whole United States? And you were present during that part of the hearings?

Mr. WHITMAN. I was, sir.

The CHAIRMAN. I believe you will agree with me that, in each and every instance, their views were at variance with yours?

Mr. WHITMAN. Their opinions, so far as they were based on the information before them, were.

The CHAIRMAN. Yes; I believe you will agree that we had before us here the Army board, men of standing and high character, who were sent out there to make a personal examination of this matter?

Mr. WHITMAN. Yes, sir.

The CHAIRMAN. And did go there. And that, to sum it up tersely, their conclusion was that this was the most available supply, and that it should be done now. Were those not practically the words spoken here by Col. Biddle?

Mr. WHITMAN. His opinion seemed to be that, inasmuch as this water was necessary for irrigation, it should be given to the city for domestic supply.

The CHAIRMAN. At the outset of your statement you conceded a shortage of water to San Francisco, did you not?

Mr. WHITMAN. There is a temporary shortage due to an unfortunate controversy which has gone on for some years between the company and the city whereby the necessary facilities which have been extended have not been adequate.

The CHAIRMAN. You are aware of the fact that California has eleven Members of Congress here in their delegation?

Mr. WHITMAN. I think so.

The CHAIRMAN. And that no one of them has been here and said anything other than in commendation of this action, are you not?

Mr. WHITMAN. I have not heard any very strong opposition, sir.

The CHAIRMAN. Do you not really think that it is assuming a good deal of responsibility for a resident of Cambridge, Mass.—even for a learned and distinguished lawyer that you are—to set up your judgment against that array of talent and array of officials and of Representatives in Congress who have gone into the question the same as yourself?

Mr. WHITMAN. So far as it is a question of opinion I agree with you; so far as it is a question of fact, I have endeavored to present such considerations of fact as to show that their opinion has not been based upon consideration of the existing facts.

The CHAIRMAN. You stated at the outset of your statement that you "represented the public." What did you mean by that?

Mr. WHITMAN. I mean that so far as the public have been able to organize themselves and to take an interest in this matter, I represent those organizations.

The CHAIRMAN. Do you mean by that that you are the annual attorney of the different organizations—

Mr. WHITMAN. No, sir.

The CHAIRMAN (continuing). That have associated themselves together for the preservation of parks?

Mr. WHITMAN. People in the East belonging to the association have chosen to select me as president of the organization. I am here without compensation, and at my own expense, except so far as these gentlemen may raise enough money to compensate me for my expenses. I am certainly giving my time and have given about a week to date.

The CHAIRMAN. You have presented your side very ably, and I think the whole committee will agree to that.

Mr. WHITMAN. The western organization have also requested me to represent them and the Sierra Club have asked me to represent them.

The CHAIRMAN. I wanted to inquire of you if the San Joaquin Valley irrigation people were organized and here with the information that they were ready, had the ability and means to go ahead and construct a dam and impound that water for irrigation purposes at the Hetch Hetchy site, if you would feel the same opposition toward them that you do toward the city of San Francisco and the irrigation people combined?

Mr. WHITMAN. My position would be this, that when land has been set aside for a public park and somebody comes and asks for it, the burden of proof is on them to show the necessity of the use. If they are able to show it, I have no opposition.

The CHAIRMAN. It is only a question of fact, then, with you as to whether or not the city of San Francisco needs the water supply; is that it?

Mr. WHITMAN. Needs that water supply?

The CHAIRMAN. Yes; needs that water supply.

Mr. WHITMAN. Yes.

The CHAIRMAN. Do you not think, when the proof admits, and I believe your own statement admits it, that the largest number of people who have visited that canyon or valley in any one year is about 269 or something less than 300, it is taking a good deal of responsibility to set up the interests of those people, however sincere and patriotic they may be, against the interests of approximately a million people who need the water for drinking and bathing purposes?

Mr. WHITMAN. I should have to disagree with you on the assumption of fact. The million people do not need it; they can get it somewhere else. I have not attempted to speak for 269, but for the greater number of people whom I hope will use it by the year 2000.

The CHAIRMAN. But, to be frank, and to be square, it is a fact that less than 300 people have visited the park in any one year?

Mr. WHITMAN. I understand that part of the matter to be the fact, largely because Congress has not yet seen fit to make an appropriation so that people can get there.

The CHAIRMAN. You have made some objections to Congress making a grant of this kind for a few people, when there is a general ownership in it by all the people. Are you aware of the fact that the Senate has reported a bill which provides for the issuance of \$42,000,000 in bonds to build a Federal Government railroad in the Territory of Alaska, and that it was reported by a vote of 8 to 2?

Mr. WHITMAN. I think I saw something about it in the papers.

The CHAIRMAN. I am not speaking as to the wisdom of that, because, confidentially, I doubt it; but if the Federal Government is called upon and the Senate committee has gone far enough to recommend it, would not it at least dull the ardor of your cause a little to think that here is San Francisco, the city which has recently suffered the great disaster that they have, ready to put up some sixty million or seventy million dollars of their own money in the development of a project of this kind for their own use and the use of the people of the city?

Mr. WHITMAN. I do not seem to have made myself clear. I say if that was the only source of supply for San Francisco she ought to have it. I agree with everybody else that if this was the only source she ought to have it.

The CHAIRMAN. In order that you be consistent, if those irrigation people down below the dam should organize themselves into a corporation or water district or water company or whatever the preliminary steps may be, in order to properly promulgate a scheme of this sort and make the claims, you would have to oppose them the same as you oppose this project now, would you not, if the question of scenic beauty is the end to be sought, you would have to oppose any sort of beneficial use of the Hetch Hetchy?

Mr. WHITMAN. I would oppose it to the extent of calling upon them for proof that it was needed and could be properly used.

The CHAIRMAN. The basis of your argument was devoted to the fact, and you sought to stir up the minds of this committee as to the rivalry between San Francisco——

Mr. WHITMAN. No, sir.

The CHAIRMAN (continuing). And the acreage below that you said would be left in a barren state.

Mr. WHITMAN. Let me explain myself. If a district came up here and asked for the Hetch Hetchy Valley, my inquiry of them would be, Is there not some other reservoir in the foothills which you can use?

The CHAIRMAN. And you, not being an engineer, here asserting that there are supplies elsewhere?

Mr. WHITMAN. No; I would not. I would ask the question, and I say the burden of proof is on them to prove it, not on me to prove it.

The CHAIRMAN. Not becoming argumentative, which I ought not to do and which I will not do, after they should have presented the proof, after they have had the matter presented by an Army board of the highest order, engineers who can not be ignored, and after they have gone there and made an investigation, come back and make the report, coupled with the combined judgment of the 11 Representatives in Congress from that State and by Gifford Pinchot, the leading conservationist in the United States, it would seem to me——

Mr. WHITMAN. If I may state——

The CHAIRMAN (continuing). They might have some claims to consideration.

Mr. WHITMAN. If I may state, my proof is that it will cost them \$13,000,000 more to go to the next source.

The CHAIRMAN. Yes, but there is much proof in the record that that will be unsatisfactory. There is also much proof that difference in the four places will be much greater than \$13,000,000 also.

Mr. THOMSON. What proof—the Sacramento River?

The CHAIRMAN. This project has no power possibilities and no way to compensate themselves for the consequent expenditure they would have to make. So this Army board, on page 49, I think it is, says Hetch Hetchy is about \$20,000,000 cheaper than any other, save the Sacramento, which is \$13,000,000 cheaper, but they go right on and say that the power possibilities of the other sites are not comparable with the power possibilities of Hetch Hetchy.

Mr. WHITMAN. That is true.

The CHAIRMAN. So that it really makes a much greater difference than the \$20,000,000 or \$13,000,000 would show on the face, because in the Hetch Hetchy they develop 115,000 horsepower, with a valuation of \$45,000,000, whereas the others have little or no horsepower.

Mr. WHITMAN. Mr. Freeman estimates 200,000 horsepower.

The CHAIRMAN. Perhaps he does; the Army board estimates it at 115,000.

Mr. THOMSON. May I ask a question, Mr. Chairman?

The CHAIRMAN. Yes.

Mr. THOMSON. I would like to ask Mr. Whitman, in the light of the facts before the committee, which source he feels proof has shown the city ought to turn to?

Mr. WHITMAN. I should say, sir, that for a number of years that the company improve their present sources from the Coast Range; that, according to all the figures, will last them for a good many years. Meantime they have the opportunity to make a more careful study between the different sources than they have ever made or been willing to make. What the result of that would be, I am not prepared to tell you. I can only say that on the showing as now made they have got four other supplies, to any one of which they may turn.

Mr. THOMSON. This Coast Range source that you speak of is the source now used by the present water company?

Mr. WHITMAN. Yes, partially developed. Their plans contemplated the development of some 200,000,000 gallons from this Coast Range. The Army engineers think that is too much, but still there is 133,000,000, and from that and the Bay City supply there is 203,000,000 which will support 2,300,000 people, and there is less than 1,000,000 there now.

The CHAIRMAN. I think it was suggested, just before the noon hour, Mr. Long, that you desired to ask Mr. Denman a few questions?

Mr. LONG. Mr. Denman is a resident of San Francisco——

The CHAIRMAN. We will be glad to hear Mr. Denman.

Mr. LONG. I only want to ask questions of him for a few minutes.

Mr. SINNOTT. I wanted to ask Mr. Whitman one question in relation to the society which he represents. I would like to know something more about that.

Mr. WHITMAN. The eastern branch has about 200 members, scattered through New England and some as far south as Washington. The members of the western branch I am not familiar with.

Mr. SINNOTT. How many are there in the western branch?

Mr. WHITMAN. I say I have no idea; I have never become acquainted with that.

The CHAIRMAN. It is possible we can get some information from this gentleman—Mr. Denman.

Mr. WHITMAN. That is different—the Society for the Preservation of National Parks, western branch.

Mr. SINNOTT. The eastern branch covers what territory?

Mr. WHITMAN. It is supposed to cover the eastern part of the country, and I think there are no members farther south than Washington.

Mr. SINNOTT. East of the Mississippi River?

Mr. WHITMAN. East of the Mississippi River.

Mr. THOMSON. How many members of the eastern branch have been out there?

Mr. WHITMAN. I could only guess; I should think it might be somewhere in the neighborhood of 25.

STATEMENT OF MR. WILLIAM DENMAN, OF SAN FRANCISCO, CAL.

Mr. LONG. You are a member of the San Francisco bar and a native and resident of San Francisco, are you not?

Mr. DENMAN. Yes.

Mr. LONG. Are you acquainted with the high Sierras in California?

Mr. DENMAN. Yes; the southern Sierras as well as the north. I have been in the Shasta region and climbed through most of the McCloud country, and have touched at Big Meadows, in Plumas County, where their other dam is that you speak of; and then have covered most of the region south of there in the Tuolumne and the Merced and Kings River country. I have never been on the Kern, and have never been in that region between Lake Tahoe and the upper Stanislaus.

Mr. LONG. Have you been in the Hetch Hetchy Valley?

Mr. DENMAN. Yes; I have been through there and through the upper Tuolumne. I have been twice in both those regions and one trip with the Sierra Club, and on the other occasions with a party of my own.

Mr. LONG. Are you a member of the Sierra Club?

Mr. DENMAN. Yes; I was one of the organizers of the Sierra Club, one of the charter members, and was rather active in its councils until it took this action in relation to the Hetch Hetchy. At that time I thought the action was taken under circumstances that were not in perfect candor, and I have not been very active in the councils of the club since that time. I have always felt that the way the vote was taken there—the peculiar way in which the ballot was sent out and worded—did not get a fair expression of opinion, and it occasioned really a split in the club, and although I did not withdraw from its membership I have not been very active since then.

Mr. LONG. Have you any opinion as to the effect there would be on the beauty of the Hetch Hetchy by the construction of the proposed Hetch Hetchy Dam?

Mr. DENMAN. Of course, my opinion on that would not be as entirely free and unbiased as that of the gentleman who has preceded me, because I am a San Franciscan, and know by recent and former visits the condition of the water supply there, and how urgent it is that we should have this question determined, and it may be that my opinion is somewhat colored by the pressure of the exigencies of the city, but I would not yield to this gentleman in my affection for the Sierras, and particularly my affection for that upper Tuolumne country. I have been through it with some of the same people you have been through with.

Mr. WHITMAN. Yes, I know that.

Mr. DENMAN. And I agree with you that if this were a scheme to wipe it out from public use and visitation I would hesitate very strongly before saying anything here that would in any way help that project; but I do not agree with Mr. Whitman regarding the effect of putting the dam in there. I know most of the men who have climbed that country—at least the older men. It is the vacation practice of students to go into this higher country with burro, about one burro for three men is the usual ratio, carrying their provisions on that tramp over the higher mountain country. The Hetch Hetchy has never been an objective of any of these climbers. It is low—much lower than the Yosemite. In the months that it is free from mosquitoes, it is very hot, and until the last of September or first of October, when very few go into the mountains; it does not fit into the vacation time in California. Most of the people who go in there in very large numbers are people who go into the interior valleys during the hot months. I have never known of any of my friends who have camped or desired to camp for any extended period in the floor of the Hetch Hetchy Valley. In going there they are usually on the way through to Lake Eleanor, or coming through from the north to the Stanislaus region, passing by Lake Eleanor and coming down into the Yosemite, or turning north over Tioga road, and going up into Tuolumne Meadows. The first time I went into the Hetch Hetchy the mosquitoes were intolerable. They would light upon a man's blue shirt and turn it brown, and were as voracious as mosquitoes could be.

The second occasion on which I went in there was late in July, and the heat was very excessive, and no one would want to stay there any length of time. The north wall of the canyon stores and sends back the heat down into the floor of the valley and makes it not a pleasant place for a permanent camp, and there is not so very much there to make you want to stay. There is a very beautiful fall; there is a high cliff; and there is a meadow that has the loveliness of mountain meadows. But it has not any of the diversity of view of the Yosemite, with its variety of falls and with all its variety of canyon sculpture, and you would never have anybody going into the Yosemite and then going over to the Hetch Hetchy unless he has a long vacation time, and then he will go to Hetch Hetchy merely as an incident of travel through this region of the Tuolumne or beyond there. In other words, I disagree with Mr. Whitman as to the value of this place as a camping ground and playground during the summer season. No one would ever go there who was simply visiting the State, and they would see everything in the Yosemite and very much more than they would see in the Hetch Hetchy. It is a miniature Yosemite, and while it has its loveliness it is, as I say, not an objective in that

country. [Turning to Mr. Whitman.] Do you know of any parties camping for any length of time on the floor of the Hetch Hetchy Canyon?

Mr. WHITMAN. My knowledge is limited to going into the Sierras, and the Sierra Club has not been through any other time.

Mr. DENMAN. They passed through and went on to Lake Eleanor?

Mr. WHITMAN. They stayed two or three days.

Mr. DENMAN. Once to Lake Eleanor and once to Crockett.

Mr. TAYLOR of Colorado. Is not the real question that this committee ought to broadly consider, whether or not 4 people or 79 people went there in the past year, and what the possibilities of that tract would be if properly opened up by the Government as one of the national resorts?

Mr. DENMAN. I thought I was making my point clear that it would not be an objective; that it would be simply an incident on the trail into the higher mountains on beyond, where there are some very beautiful lakes and numberless small mountain meadows, abundant feed to take care of their burros, and the very small cost of camp equipment that you take into that country, because the mountaineers of California do not ride. It is exceptional when they ride. They have a pack, and the number of animals to the number of persons goes from one to three or one to four or little less. So that the use of this valley for a place of pasture or a place of central camps has never been developed yet and probably never will there. People will go, stopping at Crockett, turning off from the Hog Ranch going down into the Hetch Hetchy and from there on up into the Tillitt and the other little valleys and mountain lakes on to the north and the east. They can go just as well into those higher regions and very much faster if you have decent roads, and all they care to go into the Hetch Hetchy for is to see this cliff and this waterfall and this lake, which will be there in the place of the meadow, which is a very lovely meadow, with its mosquitoes. They will pass on through there and go on to this higher country, and these roads will make available the lovelier portion of this country where the cliffs and little lakes make it a country of extraordinary Alpine beauty.

Mr. TAYLOR of Colorado. Does this lake interfere with that waterfall?

Mr. DENMAN. No; the waterfall is 3,000 feet higher up.

Mr. WHITMAN. No; 1,600 feet.

Mr. DENMAN. The wall of the canyon is about 3,000 feet, and there is a break in it, where the last drop of the fall comes, 1,500 or 1,600 feet, but the rise of the lake would not interfere with the beauty of that; on the contrary, it would give us something we have not anywhere else in California, that is a great waterfall and wonderful cliff and lake underneath, in which the whole of it would be reproduced. We have nothing like that in California scenery anywhere. I know it hurts the feelings of some people to believe that there is anything that has been supplemented by man in making the beauties of nature; for many people the fact that they saw that water there, coupled with the fact that it ultimately is to reach the city and be used possibly for beneficial purposes, the coupling together of those two facts would destroy all the beauty in that neighborhood for them. I do not believe that that is the universal sentiment of the Sierra Club, admitting that that is an aggregation of pure nature lovers. It

certainly was not the unanimous sentiment of the men who formed the Sierra Club, and I think they were lovers of nature. At any rate, that is what you would have. You would have created by artificial means something we do not have in California or in any of the western States; that is, a combination of waterfall and of a great lake, with cliff above, the lake reproducing them.

The CHAIRMAN. What is the total membership of the Sierra Club?

Mr. DENMAN. I do not know what it is—quite large.

Mr. WHITMAN. Fifteen hundred or sixteen hundred?

Mr. DENMAN. I do not know whether it has that number now or not; it did have, and then was a very large sagging of interest on account of the difference of opinion as to the method of handling the Hetch Hetchy.

The CHAIRMAN. How great was that difference of opinion?

Mr. DENMAN. I do not know what the vote was.

Mr. WHITMAN. About 5 to 1.

Mr. DENMAN. We were speaking of the vote.

Mr. WHITMAN. That was the vote.

Mr. GRAHAM. If the proposed dam were made 300 feet high, would that give us the water that would fall immediately into the water of the lake?

Mr. DENMAN. My recollection is that it would, but there are certain portions of the day when the air is absolutely still—and awfully hot—when you would get across the lake this wonderful repeated view of the cliff. My opinion is that if you put the lake in there you make that an object of attraction and you would get a visitation into that neighborhood which you do not have now.

Mr. GRAHAM. I was going to ask you what your judgment was as to the effect on the travel if the lake were made and such a road as this bill contemplates made into the Hetch Hetchy Valley.

Mr. DENMAN. My own opinion is that if you put in the lake and put in the road that you would have many more people going in there than you would have if you did not put in the lake and road.

Mr. GRAHAM. How many more?

Mr. DENMAN. It is impossible to assume. You would have the unique feature of lake and cliff where you did not have it before.

Mr. GRAHAM. Mr. Whitman, I want you to be present when I ask Mr. Denman some questions, to see if we can reduce beauty to mathematics.

Mr. WHITMAN. I never heard of its being done before.

Mr. GRAHAM. Suppose you put the beauty of that place as nature has it as 100, could you give any estimation as to how much, in your judgment, the proposed bill would reduce the per cent of beauty?

Mr. DENMAN. No; in my opinion the fact that you are coupling the great beauty of this country with the utilitarian purpose, so called, would be the creation of power to put one of these fans within the reach of every woman who has to cook in a hot kitchen in San Francisco. The coupling together of those two at once would add greatly to the beauty of that place from my point of view. If you were to eliminate San Francisco, the usefulness for the power for the average fellow in San Francisco, and ask me for my preference, I would say that I would go to Hetch Hetchy to see the lake and the waterfall and the cliff where I would not go to see a mere, small edition of the Yosemite.

Mr. GRAHAM. Take this view of it: Suppose from the natural condition of it, you would put its beauty on the basis of 100 per cent, and that 500 people a year go to see it, that would be 500 times 100 or 50,000. Suppose, on the other hand, that the improvement is put in and you thereby reduce the beauty of its 80 per cent of that 50,000 go to see it. That would make a total of 400,000 persons who took in the newer condition. Would not that give a very much better result, even from the beauty standpoint?

Mr. DENMAN. Of course, granting your presumption, I would have to come to your conclusion.

Mr. GRAHAM. Will you say, Mr. Whitman, that the proposed improvement would reduce the per cent of the beauty more than 20 points?

Mr. WHITMAN. I am not prepared to say as to the question of lake or meadow. I think persons may very well differ on that. I do not know; I would like to think about that. I have not tried to raise that question.

Mr. GRAHAM. There is no beauty unless there is an eye to see it or a mind to conceive it. It would be like the flower in the poem, "Born to blush unseen, wasting its sweetness on the desert air."

Mr. WHITMAN. To conform with that assumption it would be necessary to consider how many people will go in to see that, when they have got to go in and turn around and come out. I doubt very much whether 50,000 will go in to see it and turn around again and go out.

Mr. GRAHAM. Would you agree that if this change—out of respect to you, I will not call it "improvement"—if this change were made, and the road which the bill provides were made as provided, that a great many more would go to see it?

Mr. WHITMAN. No, sir. I should think it would reduce the number who would go in there, because the only people who would then go, I take it, would be the automobile people and the few small parties, that the gentleman has just spoken of, who are on the way up into the mountains and could go that way. I don't know that they would necessarily use this scenic road; frankly, I think it is unnecessary expense to the city.

Mr. RAKER. What do you mean by the "automobile people?"

Mr. WHITMAN. People who can ride up that mile from the station that you speak of, and thus take a view of the place and turn around and go back.

Mr. RAKER. That will include about 95 per cent of the farmers in the valley, would it not?

Mr. WHITMAN. Who went to stay?

Mr. RAKER. Is it not a fact that every seven people in California own an automobile? I am just asking you if you know? You will find that is a fact; you will find farmers going up in automobiles and struggling and doing everything they can to go into the Hetch Hetchy instead of going along a dusty road a couple of days.

Mr. WHITMAN. What I mean is people who want to take their families up in the mountains a few weeks.

Mr. RAKER. Do they not go with an automobile? Sure, they do.

Mr. WHITMAN. They do not go in and back the same day?

Mr. RAKER. Oh, no; they come with automobiles.

Mr. WHITMAN. Where?

Mr. RAKER. Why, all over the mountains.

Mr. WHITMAN. I meant up in this Hetch Hetchy.

Mr. RAKER. You can not get in there now with an automobile?

Mr. WHITMAN. No.

Mr. RAKER. You can not get in the Yosemite Valley with an automobile, but if they would let you go into Yosemite with an automobile there would be thousands where there are not hundreds now.

Mr. WHITMAN. If you fill the valley with water where will the automobile man stop except at this four-dollar-a-day hotel?

Mr. RAKER. You could have summer hotels and cottages all over the hills.

Mr. WHITMAN. Ask Mr. Marshall where you can do it.

Mr. LONG. I will ask Mr. Denman if he thinks it is possible to have cottages and summer resorts.

Mr. DENMAN. My impression is that people would not care to go into Hetch Hetchy to stay in cottages. It would be too hot; it would be too hot when the mosquitoes are not there. I am speaking on the theory if you left the meadow as it is. Of course, if you remove the mosquitoes you will have more people wanting to go into that country, and my impression is that you would find a number of places in which you could put cottages, and certainly any number of places where you could leave automobiles and take your pack things and go on up into the higher country. After you get to the Hetch Hetchy Valley it is only a short distance up into the Tillitt, and from there over into Lake Vernon, from there to Lake Eleanor, and from there on back into the beautiful group of lakes—I have not been to them; I have been only to those I named—and from there on back into these other lakes, which the map shows, and which Maj. Benson has described in his reports, all of which, if you can get into the Hetch Hetchy, are made available to the camper with the short trip.

And to have all this equipment for the traveler who comes into the Yosemite and the Hetch Hetchy. You can get your pack things and move on very inexpensively into those higher lakes on beyond, and they are the real objectives. The traveler comes to the Yosemite, and there is nothing for him in the Hetch Hetchy which he would not have in the Yosemite.

Mr. LONG. Mr. Denman, are you familiar with the conditions in San Francisco at the present time in the matter of the water supply?

Mr. DENMAN. Yes; I have been over the lakes within the last three months.

Mr. LONG. What is their condition?

Mr. DENMAN. The water supply is very low. The banks of the lakes are exposed to an extent I have never seen them. I believe but once before they have been as much exposed, but I have never seen them in the condition they are now. The piping across the bay—a portion of this supply comes from the east side and a portion from the west side of San Francisco Bay—is insufficient to carry any greater supply than is now being put through it, and as a matter of fact, they are now boosting through that pipe beyond what its real capacity should be. A certain percentage of the pipe has got to be left for air, because it is only the minimum capacity of the pipe that can be utilized, and of course the pipes do narrow down when run 10 or 15 miles, and you will have some places where the pipe is narrow, and they are boosting through there by pressure beyond what many people consider the safe point.

So that a break in one of those pipes might lead us into difficulties even now. They are just at the border line of supplying the city from the present supply. Undoubtedly the local people have undeveloped resources of great value, and undeveloped resources that can be utilized in the course of time and would have been utilized I have no doubt if this question had been settled before this. But, of course, neither the city nor the water company has been in a position during the turmoil from this procedure to get together, and the settling of this question here is going to enable the city to sit down fairly with the water company and determine the question.

Mr. TAYLOR of Colorado. You said if the bill should be defeated that the city will go ahead and develop the local resources?

Mr. DENMAN. It depends upon whether or not the thing can be done in a way that is satisfactory to them. I have no doubt at all that ultimately the suggestion of the Army board will be carried out; namely, that the supply of San Francisco will be a combination of the mountain supply and developed by all the means that are in reach, and that during the interim the very large area of land that we have on each side of the bay that can be put under cultivation, and it is just as valuable as this land in the San Joaquin Valley, and will be made enormously productive, because as the Italian immigrants come in there they can be put on the lands and tremendous crops taken off; in other words it is not that this water is going to waste, but going to be put on lands that can be made very highly productive.

Mr. LONG. I want to get you to explain this: You mean if San Francisco does not continue for a period of years to draw the water from these gravels that water ought to belong to the land which is riparian?

Mr. DENMAN. What I was thinking about was this: Suppose you were to put in an extensive irrigation system. Suppose you have a surplus—

Mr. LONG. We are barred from that under this bill.

Mr. DENMAN. I wanted to bring that out.

Mr. TAYLOR of Colorado. The question, gentlemen, is as to whether or not the city will acquire the rights of these private companies.

Mr. DENMAN. I personally hope they will.

Mr. TAYLOR of Colorado. It is not a question of hope but a question of fact.

Mr. LONG. You have an acquaintance with the president of the Snow Valley Water Co., as well as the city officials, and as a citizen you have considered the subject. You have no official relations with either?

Mr. DENMAN. I have never taken any official part in the controversy.

Mr. LONG. You know the views of all parties to the controversy. You were raised there for some years. You know their desires?

Mr. DENMAN. I do.

Mr. TAYLOR of Colorado. Your idea as far as Hetch Hetchy is concerned is that it is one of the scenic attractions of the State which you can dispense with as well as any?

Mr. DENMAN. On the contrary, I think this scheme will make the scenic attractions of Hetch Hetchy greater and more available.

Mr. TAYLOR of Colorado. It will then be different from any other in having this lake effect?

Mr. DENMAN. In having this lake effect, which we have nowhere else in California.

Mr. TAYLOR of Colorado. Whereas, now, if a person goes to the Yosemite it is unnecessary to go to Hetch Hetchy.

Mr. DENMAN. You would never go to Hetch Hetchy except to take in that entire region beyond.

Mr. CHURCH. Mr. Denman, may I ask you a question or two?

Mr. DENMAN. Certainly.

Mr. CHURCH. You say there are a great many mosquitoes there in the valley in certain seasons of the year?

Mr. DENMAN. Yes.

Mr. CHURCH. Is it not a fact that the floor of that valley is in some parts swampy and very wet?

Mr. DENMAN. Yes. The meadow itself is quite wet in places.

Mr. CHURCH. If this lake we are talking about is created, do you not think the mosquitoes will lessen by reason of the fact that the swampy land is covered?

Mr. DENMAN. I thought I had said that. That is my impression, that you would have the great source of breeding of mosquitoes removed.

Mr. TAYLOR of Colorado. The passage of this bill will, then, eliminate the mosquitoes to a great extent?

Mr. DENMAN. Probably to a large extent, provided the passage of the bill means the consummation of the lake project.

Mr. CHURCH. I suppose if this lake is made it will be stocked with fish. Do you not think that fact will cause a great many people to come in there who otherwise would not come in?

Mr. DENMAN. I think very likely so, but the fishing will never compare in that lake to what it is in those numberless lakes beyond. The fishing over there is remarkable; it has all the attractiveness of small lakes, wooded sides and little meadows along the sides and fly fishing, which probably you would not have on the Hetch Hetchy Lake itself, which is too large and too deep.

Mr. CHURCH. It would be stocked with black bass, would it not, probably, and certain other fish?

Mr. DENMAN. I think it would.

Mr. CHURCH. Then there would be boating there, which naturally would be an added attraction?

Mr. DENMAN. Really, frankly, I doubt whether very many people would go over to boat on that lake. It would add to its attraction, but the real people who go into the Sierras do so for just the thing Mr. Whitman states, the isolated beauty of these various places.

The CHAIRMAN. Is it not quite likely that those who go there for the mere beauty would want to get a view from the water, and that therefore boating would be rather popular, because the view from the water is vastly enhanced?

Mr. DENMAN. Quite likely.

Mr. RAKER. Let me interpose a question there. If the suggestion you made awhile ago is true, I doubt whether there would be many Representatives whom you could get to report the bill. I believe the State would drive us the other way; and that is, that you could use these lands around San Francisco and out over to Alameda with foreign population, by taking water from the other valleys and using it. I do not know whether you meant that or not.

Mr. THOMSON. That would be——

Mr. RAKER. Just a moment. I want to get this in the record, unless he wants to withdraw it.

Mr. THOMSON. That would be impossible under the bill.

Mr. RAKER. There is not any possible provision in this bill and never will be that all municipalities may get water.

Mr. DENMAN. Just a moment.

Mr. RAKER. Let me make my statement. And my understanding of Mr. Denman's statement is that the land will become more valuable about San Francisco because foreigners can come in and more intensive cultivation will make it more valuable than the other valleys. I do not think he meant that.

Mr. LONG. That is following the Freeman reports, the original idea, which we abandoned.

Mr. DENMAN. Mr. Raker has not quite stated what I said.

Mr. RAKER. I want you to describe it.

Mr. GRAHAM. He meant other States than California.

Mr. RAKER. That is not the statement. If you correct the record, all right. I do not think you ought to leave it that way.

Mr. DENMAN. I certainly do not want to leave the impression in your mind that you conceived from it. What I mean to say is that if during the interim between the growth of population up to the entire consumption of this water there would be a surplus of water, say, in the Calaveras Dam. There is abundant land under that dam where the water can be put to an economic use. It will not be long. That is all I meant to say. I do not mean to say that we are going in the business of competing with the valley in the matter of securing population. I do not mean to say that this thing is going to remedy that, but it has been suggested here that there was a point where you would not quite use up the water and that there was going to be economic waste. Those suggestions were made by Mr. Whitman.

I understand my ignorance of the provisions of the bill has made my remarks irrelevant, and if you desire to strike them out on that account you may do so.

Mr. RAKER. That was not the question.

The CHAIRMAN. Is it your understanding that the city government of San Francisco could take the waters of the Hetch Hetchy for the purpose of domestic use, and then to obtain the Spring Valley supply and use that supply for the purposes of irrigation in and around San Francisco?

Mr. DENMAN. Not in the least; but suppose you had this situation: In years of extreme flood you have a surplus of water which you can use. I have no doubt that will be put to some economic use in those lands.

Mr. RAKER. Still, that is not the point I wanted to call to your attention. Whether you meant it or not I do not know—that foreign population could come in and around San Francisco and by extensive cultivation make that land valuable. That means a good deal in the consideration of those who would be able to use this water for irrigation and truck gardening, etc., and that it would, therefore, be more valuable than the lands in the various valleys of San Joaquin and Sacramento. That is not your exact language, but it is the purport of it, Mr. Denman, and I do not believe you intended to state that.

Mr. DENMAN. In the first place, if I did state it, I withdraw the suggestion, for the reason that, in my opinion, that when you come down to the act of productivity of soil that the interior soils, with their greater heat, purely as a matter of economy, would probably have greater productivity, but if, on the other hand——

Mr. RAKER. I do not care about the productivity, etc. I was just figuring on your statement as to foreign population; that is all.

Mr. DENMAN. We have it there now.

Mr. RAKER. It is a question whether or not the people will take that stand, and I do not think you meant that.

There is another question I want to get in the record. You have gone over these hills, Mr. Denman, beyond Hetch Hetchy?

Mr. DENMAN. Yes.

Mr. RAKER. Is it not possible that there is plenty of room in places that buildings could be erected for summer homes?

Mr. DENMAN. Yes; there are many sites in those hills where camping ground could be had, where cottages could be put in, where small hotels could be erected, and there are throughout the hills various meadows which are available for pasture.

Mr. RAKER. How close to the lake, or the floor of the valley there, would there be under the supposed road, places accessible for camping, and homes and such as that? You have the idea in view of the prospective road?

Mr. DENMAN. It would be back 3 or 4 miles on the trail down from Hog Ranch, and from there back to Hog Ranch, but my recollection of the topography of the country for building purposes is not clear enough to state the exact distances, but there will never be a very large population because it is too hot.

Mr. LA FOLLETTE. After that canal is built do you not think you could put the Japs somewhere?

Mr. RAKER. I have not discussed the Jap question and have not referred to it. If you folks want to bring that in on the floor of the House, the California delegation will discuss the question of turning over the valley lands to foreigners.

Mr. LA FOLLETTE. Of course, if you say Japs——

Mr. RAKER. I did not say "Japs."

The CHAIRMAN. I call attention of the members of the committee to the fact that the hour of 5.15 has arrived, and we want to hear Judge Dennett, so let us get on the issue and keep there.

Mr. RAKER. In connection with the matter of getting in and out of Hetch Hetchy if the lake is put in there, is it not a fact, Mr. Denman, that by going 4 or 5 miles out of the valley on the road down to Groveland and that country, people could go in with the teams or pack and see the valley, and come out?

Mr. DENMAN. From Groveland?

Mr. RAKER. Yes; and even on further up the valley.

Mr. DENMAN. If the roads were in condition.

Mr. RAKER. Assuming the roads would be in good condition?

Mr. DENMAN. Oh, yes.

Mr. RAKER. So, then where there are small towns, and even further in the Hetch Hetchy, there would be plenty of places where the very best accommodations could be made, and people could drive in and see all that country and come back or take a little material with them and stay a day or two and come back, and there would be many come in where there are not many now.

Mr. DENMAN. That is undoubtedly so; and in addition to that if it were made a side trip of the trip into Yosemite, many people would run in there on the way to Yosemite, making a circle and coming out and going out onto Yosemite.

The CHAIRMAN. At this time Mr. Curry offers two telegrams, addressed to him, bearing on this matter, and asks that they go into the record. Unless there is objection, they will be inserted at this point.

(The telegrams submitted by Mr. Curry are as follows:)

TRACY, CAL., *June 22, 1913.*

HON. C. F. CURRY, M. C.,
Washington, D. C.:

District in course of organization to be known as Tracy irrigation district covering 63,000 acres. Need 500 second-feet of water or in its stead 10,000 horsepower for pumping. Confer with Dennett from Modesto now in Washington.

BOARD OF TRADE.

TRACY, CAL., *June 21, 1913.*

HON. C. F. CURRY, M. C.,
Washington, D. C.:

We are organizing irrigation district west side San Joaquin from Grayson to Alameda County line, 63,000 acres. We want Hetch Hetchy power or water. Engineers estimate 8,000 horsepower needed. If San Francisco gets our water we should get power at cost. Ask Committee on Public Lands to protect our interests.

BOARD OF TRADE.

STATEMENT OF MR. L. L. DENNETT, REPRESENTING PROPOSED WATERFORD IRRIGATION DISTRICT AND STANISLAUS COUNTY, CAL.

Mr. DENNETT. The telegrams just introduced into the record by the chairman, addressed to Congressman Curry, are in regard to the irrigation district on the west side and the other regarding the trade irrigation district. This matter was not called to my attention until Mr. Curry received these telegrams, and I will discuss it later.

There are two phases of this question I wish to discuss.

The CHAIRMAN. What is the first one?

Mr. DENNETT. The first proposition, I think, I would like to discuss would be the general policy of this bill very briefly. I would like to state this, that I very much regret to appear in any way to oppose the desire of San Francisco to obtain a municipal water supply. So far as the obtaining of such a supply is concerned, I am greatly in sympathy with San Francisco, but I do not believe that such a supply should be obtained either at the expense of the people of the State of California as a whole, and I certainly do not believe that such a supply should be obtained at the expense of the people of my own county whom I particularly represent.

The facts are largely before the committee, and therefore I do not wish to go into the details of the discussion. I would like to state, broadly, however, this proposition: That the principle of the general conservation of the resources of the State of California have been considered for years—long before this Hetch Hetchy proposition came up. It was realized that if the highest development of California was to be obtained, every drop of water in the State should be applied to the most beneficial use, and that it would become necessary in the development of the State to divert from the Sacra-

mento Valley the waters which are there in excess either for domestic purposes or for irrigation in the San Joaquin Valley, and I honestly and conscientiously believe that the proposition of San Francisco is contrary to the broadest principle of conservation of resources of the States, and will result in a greater economical loss ultimately to San Francisco than the mere question of cost, and that this matter may be before the committee, I would like to refer for one moment to the record compiled by the conservation commission of the State of California for the year 1912, showing the peculiar water conditions in the State of California.

It shows, broadly, this, that if every acre of land in the Sacramento Valley were irrigated, and the flow of the Sacramento River was maintained so that navigability would not be impaired, there would still be an abundance of water which could be diverted from the Sacramento Valley to be used elsewhere. In a broad policy of conservation it is desirable, with this as one of the units in the conservation of the resources of the State of California, that that excess of water be impounded and diverted from the Sacramento Valley, so as to relieve the people from flood loss.

Just a few moments ago there was handed to me a report of the Rivers and Floods of the Sacramento and San Joaquin watersheds, compiled by the authority of the Federal Government, which showed a loss of \$10,000,000 in the last two or three floods in the Sacramento Valley. So we can readily see that it would not take a great many floods by this excess of water to compensate for any greater expense from proper impounding and diverting of that water.

In this report of the conservation commission, we find on page 170, this statement:

The rainfall of the Sacramento Valley and acreage already appears in the record, and the committee are familiar with that—

and I will only give the summaries, because the figures, I presume, are not necessary to be retained in mind.

I would like to call also attention to the fact that while for years we have been considering the ultimate highest conservation of the resources of the State of California, which is a matter of tremendous importance, and that the possible reservoir sites have not all yet been determined. This report shows approximately 3,400,000 acre-feet of known storage capacity for which water has been estimated to be annually available. Then, further on it states that the total mean flow of the Sacramento River at Collinsville during the months of April to September, inclusive, approximate, according to the best available data, 16,000,000 acre-feet. Allowing 7,000 cubic feet per second during that period for navigation, leaves nearly 13,500,000 acre-feet as an approximation of the supply available in the mean year for direct diversion, assuming diverting capacity great enough to handle it, etc. Showing the fact which I think will not be controverted by anyone that when the proper conservation of the water supply of the Sacramento Valley is accomplished—and that it can be accomplished I think no competent engineers question—there will be an excess of water which for the protection of that valley should be diverted, and it is our contention, from the San Joaquin Valley, that in the face of that view, in the face of the fact that we are endeavoring to develop these resources, every unit in the development of the State should be constructed with the idea in mind of the

greatest ultimate conservation, and that therefore it is an economic blunder to divert water from the San Joaquin Valley, where it is needed, when water can be diverted from the Sacramento Valley, where its diversion is desired.

I do not care to dwell upon this phase, because, to be perfectly candid, apparently from the remarks of the committee, the argument does not seem to appeal to them, and I do not care to take the time of committee in making an argument which apparently does not carry great weight.

MR. GRAHAM. How far would you carry that theory? For instance, in order to use the water out of the Sacramento River which otherwise would go on idly to the sea and thereby save what elsewhere might be used for irrigation, how much additional expense would you go to? Do you get my thought?

MR. DENNETT. Yes, sir. To take a concrete illustration of the case in point: It is unquestioned that ultimately—it will not be in our lifetime—the diversion of 400,000,000 gallons of water to San Francisco means the permanent sterility of 200,000 acres in the San Joaquin Valley. An acre of land in the San Joaquin Valley, under irrigation—and I think I make a conservative estimate—will produce in food value, gross, in excess of \$100 a year, and therefore your 200,000 acres will mean an annual loss of \$20,000,000 of food production to the people of the United States of America. Now, you can not capitalize food production. We have talked a great deal about the matter of life or death in regard to the use for municipal purposes for water, but when it comes to a question of food supply for a great nation you can not capitalize it, but if you attempt to capitalize on a 5 per cent basis you have a loss to the United States of America \$400,000,000.

MR. THOMSON. May I ask a question right there?

MR. DENNETT. Certainly.

MR. THOMSON. If this water is used for San Francisco from Hetch Hetchy will those 200,000 acres of land in the San Joaquin Valley that you have referred to be without irrigation?

MR. DENNETT. Ultimately it will. Of course, I assume that if this water is used for San Francisco that for a time some part will be retained for use in the valley, but ultimately this land will be absolutely without water.

I would like to state that the annual rainfall in this region where they use this water is only about 9 inches. This year it was only about 5 inches. Nine inches of water, as you gentlemen are aware, in a dry climate like that of California can only be of use in the raising of wheat or similar grains. This land has been cropped for years to wheat until its productivity has been almost destroyed for grain. It must be irrigated or it becomes practically worthless.

MR. THOMSON. Is Hetch Hetchy the only source?

MR. DENNETT. Hetchy is the only possible source of supply for this land lying along the Tuolumne River. I think I have heretofore given, at an earlier stage, the reference to this report showing the acreage dependent on the Tuolumne River, and the flow-off from the Tuolumne River. I stated that there were 250,000 acres approximately in the irrigation district; there are 200,000 acres outside of the irrigation district, according to this report, which are dependent on the river. In addition to that there is an area of about 22,000 acres in

the foothills which can be irrigated at considerable expense. We believe if this foothill land is citrous land it will pay for irrigation at this expense. That is a development which has not yet been thoroughly determined. As I said before, I do not care to take the time of the committee on this argument, although I believe in it profoundly. There is no conviction I have which is deeper than this, that if our friends of San Francisco appreciated the seriousness of the situation they would be the very last people to ask for this water; that a project might be inaugurated which will condemn utterly to sterility this land, and I can only, recognizing the intelligence and liberality of those people, justify their action on the ground of the fact that they have not yet fully appreciated the situation.

Mr. TAYLOR of Colorado. That refers to the people——

Mr. DENNETT. Of San Francisco.

Mr. GRAHAM. What do you say as to the practicability of your thought; that is, as to whether the irrigable land below Hetch Hetchy could ever afford to make a dam that would conserve all of that water?

Mr. DENNETT. I am glad you referred to that. Mr. Chairman, I think I have said all that I care to say on that general question. While I am opposed to the bill utterly and completely in principle, still I believe it is possible for it to be passed in such a form that there will be in it much less measure of damage to this district, and possibly an equal degree of protection to San Francisco. Following the line of thought of Director Smith, who stated in substance that he assumed San Francisco would not make such a use as would deprive this land of the water, I believe that that assumption should be incorporated in the bill.

Coming back to the other question, as a concrete proposition, I am here primarily as the representative of the proposed Waterford irrigation district and Stanislaus County by appointment of the board of supervisors. This district represents a body of land containing between 20,000 and 25,000 acres.

Before I answer the question of Mr. Graham, possibly, gentlemen of the committee are not familiar with the irrigation district law of the State of California, as it has been worked out into successful operation. A number of the States from which these gentlemen come have this law, but I think in none has it been worked out to the degree of success and completeness it has in California. Under the laws of California the legislature of the State many years ago, recognizing the importance of irrigation, provided that any region susceptible of irrigation from a common source available could organize itself into an irrigation district. This irrigation district, in brief, has an organization almost identical with that of school district. All of the land in the district is taxed for the purpose of obtaining a water supply. I am not speaking in legal terms, but in general explanation. The water is distributed to the land free of charge, so that all of the land in the district taxes that, and all of the land in the district may get the water. This is necessary, because you will realize that the initial outlay under conditions in California in the construction of an irrigation system is so great that we have reached the stage where probably private enterprise could no longer afford to go into this development of this, and the charges made for water in the beginning would be so great that no one would

utilize the water if they did. They have already organized this 20,000 acres into an irrigation district.

The owners of the land adjoining just south of it, containing 45,000 or 50,000 acres, are investigating the question of taking the same step. This 20,000 acres in question will take its water from the diverting dam of the Modesto and Turlock irrigation district. It will be a comparatively inexpensive district in the beginning. The land south of the river having higher land will be compelled to go farther up on the river and divert its water at a higher level, but the investigation made by engineers has shown that it is entirely feasible and not unduly expensive, and unquestionably unless this bill passes in such a form as to absolutely deprive this region of water such a district will be formed.

That you may understand the difficulties, you should note that the districts after they are organized, in order to obtain money to complete their system, may issue and sell bonds. I presume most of you gentlemen from the West are sufficiently familiar with the general irrigation question to realize that the sale of irrigation bonds is not easy. The legislature of California passed a law in order to assist our irrigation bonds, providing for a State commission consisting of the attorney general, the State engineer, and, I believe, now the dean of the department of agriculture, who must pass, first, upon the organization, second, the engineering feasibility, and, third, the security for the bonds.

Now, before an irrigation district can place its bonds, they must have some sort of title to the water, and that is why, gentlemen, I am interested here to-day. If this bill passes, no matter how much water may be left to be utilized upon this land, we will not have legal title to one drop of water. That State commission would not think of approving our bonds, under no circumstances could they approve the bonds, no gentleman of this committee who is a lawyer would think of approving the bonds of an irrigation district based upon the conditions which exist here. We want, and I believe it is possible, with due protection to San Francisco, to have such a law as will enable these districts to have some clear right to the use of this water, at least while it is not diverted to San Francisco.

My remarks are rather disconnected, but I wish to say this, that while the taking of this water to San Francisco means the ultimate destruction of 200,000 acres of land, that I believe is more academic than practicable at the present time, because that condition will take place a great many years from now and this condition will then exist: As irrigation extends the lower areas of the irrigation districts become saturated with water; in other words, the water level rises, and it is feasible by cheap power to pump that water into the canals to use for irrigating the land farther on. And I believe that condition will exist in the Modesto and Turlock Irrigation District, that in some years from now it will be possible by the obtaining of cheap power from the city and county of San Francisco to pump the water from the lower levels and utilize it for irrigation in the lower ground, and therefore realize a certain amount of the appropriation of the Modesto and Turlock Irrigation District for lands higher up; but in the meantime we have no legal right to any water for this land, although it may be going to waste.

The CHAIRMAN. Does it not appear here in the records somewhere that some concession was made to your people in the agreement that was made with the Secretary of the Interior as to the distribution of this water?

Mr. DENNETT. That was a gracious concession, something like that in the story of the buzzard and the turkey—a concession on its face, but there was no concession. The Modesto and Turlock irrigation district have perfected, as is recognized in the Garfield grant, a legal right to divert 2,350 second-feet of water.

Now, the city of San Francisco has graciously consented that the districts might do that which the law under proper circumstances would permit them to do, increase their area to 300,000 acres, but increase in the acreage without increase of water is of no value.

There is this further question—and I wish to be perfectly candid with the committee—that you may understand the dilemma in which I am placed—

The CHAIRMAN. Is that what was done here, would you say?

Mr. DENNETT. Yes, sir. And I do not impute any question of good faith. I have the utmost respect for both Mr. Long and Mr. O'Shaughnessy in this matter, and I recognize the untiring ability and energy and their unfailing courtesy in this discussion, and the clause was inserted in perfect good faith, but, as a matter of fact, it don't relieve us from the situation with which we are confronted.

Mr. TAYLOR of Colorado. Does not the bill increase the water allowance?

Mr. DENNETT. They did not increase the water allowance at all.

Mr. TAYLOR of Colorado. Not at all?

Mr. DENNETT. Not at all.

The CHAIRMAN. Is that amount of water only enough to irrigate 250,000 acres?

Mr. DENNETT. My opinion is that it is only sufficient.

The CHAIRMAN. What do you say about that, Mr. Long?

Mr. LONG. I can not agree with Mr. Dennett. At the suggestion of the Turlock and Modesto irrigation district we changed the form of the bill from the limitation to the districts as now constituted—that was the original form of the bill—to permit that watering 300,000 acres. We increased the district from 250,000 to 300,000 acres at the request of the representatives from the Turlock-Modesto district. At first the request was made by Mr. Needham that we increase it 20,000 acres, in order to provide for this area which Mr. Dennett mentions. Then the Turlock people said there was about 30,000 acres adjacent, or 23,000 acres to the Turlock district which wanted to be watered, and they come in and asked us to permit that use in that territory. So we added that territory to it, and increased the entire area by 300,000 acres. Now Mr. Dennett comes in and says, "We want you to make an allowance to us for water." Mr. Dennett represents a district which is not yet organized, which has made filings but has never put a drop of water to beneficial use, which has not any rights under the State of California.

The CHAIRMAN. He probably contends he has, but for the sake of argument let us assume he has no rights. Even then if a concession was made, presumably to take care of his 20,000 and another 30,000

acres, what good does it do or is it at all a concession to increase it to 300,000 acres unless you give him the water?

Mr. LONG. Representations were made to us by representatives of the two districts that the water they had would be ample.

Mr. TAYLOR of Colorado. These two districts have not agreed to give him any of their water right?

Mr. LONG. I understand they would probably be willing to take them in; we certainly can not—

Mr. TAYLOR of Colorado. Are they going to prorate with him?

Mr. FULKERTH. If we have any water over we will be perfectly willing for him to have it, but of course we expect to use that water up to the extent of beneficial use.

The CHAIRMAN. Mr. Dennett, just what are your legal rights?

Mr. DENNETT. Our situation is this—

The CHAIRMAN. This will become important to the committee when we come to make up the bill. What are your legal rights?

Mr. DENNETT. Our legal rights are these: Under the law of the State of California the organization of a district is accomplished by the filing of a petition, signed by a majority in number of the landowners representing a majority in value of the land within the district, with the board of supervisors. Such a petition has been prepared, properly signed, and has been filed, and hearing takes place on the first meeting of the board of supervisors in July.

The CHAIRMAN. So you really have not had your petition passed on?

Mr. DENNETT. No.

The CHAIRMAN. When was it filed?

Mr. DENNETT. It was filed about two or three weeks ago. The vote of the landowners—

Mr. SINNOTT. The vote of the landowners will determine?

Mr. DENNETT. The vote of the landowners will determine.

The CHAIRMAN. Three weeks ago you filed the application signed by the required petitioners?

Mr. DENNETT. This was the result of a year or so of work and surveys.

The CHAIRMAN. Filed with your board of supervisors?

Mr. DENNETT. Yes, sir.

The CHAIRMAN. That corresponds to our board of county commissioners?

Mr. DENNETT. Yes, sir.

The CHAIRMAN. That has not as yet been acted on?

Mr. DENNETT. That has not as yet been acted on.

The CHAIRMAN. When they do act on that favorably then it is submitted to a vote?

Mr. DENNETT. It then is submitted to a vote.

The CHAIRMAN. And neither of those things have been done.

Mr. LONG. Then you must issue bonds?

Mr. DENNETT. No; it may be accomplished by direct assessment if we can raise the money in that way.

The CHAIRMAN. It has not come to the point of putting water to beneficial use?

Mr. DENNETT. No; but I can state this: A year ago—I do not profess to be exact—various landowners in the district, in order to as far as possible to protect their rights, made a filing for the benefit of the

proposed district. What the legal effect of those filings may be I am not prepared to say.

The CHAIRMAN. The committee knows nothing about what are the legal rights. You tell us as a lawyer that the law of California says this. We do not understand the local statute.

Mr. DENNETT. As I understand the law to be, when the filing is made for irrigation, work must be commenced within 60 days, and prosecuted to a completion with due diligence, considering the magnitude of the undertaking. The irrigation law also specifically dedicates and sets apart to irrigation districts the unappropriated waters of the State of California within the district.

The CHAIRMAN. After those preliminary filings were made, did your people or did they not do the things under the statute that would preserve your rights and keep it alive up to the filing of this last act?

Mr. DENNETT. We commenced and continued our surveys and the work of development which has been done is sufficient to keep alive our filings.

The CHAIRMAN. Had that application ever been approved?

Mr. DENNETT. The application is not required to be approved. It merely requires it to be filed, and it is a question of fact as to whether or not due and diligent work has been done to keep it alive.

Mr. TAYLOR of Colorado. We want to know, and most of the committee do not know, or at least a large part of them do not know, anything about those irrigation matters. We have irrigation laws in Colorado, but they want to know whether you are simply an interloper, with a paper proposition or promotion, or whether you come with some genuine and vested rights here that this committee would be doing violence to if we should ignore it.

Mr. DENNETT. It was my endeavor to make it as clear as I could. My own conviction as a lawyer is that we have a good and a valid right to 200 second-feet of water. The date of the filing by San Francisco I do not know; whether ours was subsequent to the filing of San Francisco I am not aware.

Mr. KENT. Where are we going to get that 200 second-feet of water? Do not the other filings that are already perfected take up all the water?

Mr. DENNETT. If we are prior to San Francisco—and I may say that the question of due diligence applies to San Francisco as well as to these irrigation districts, and that we are exactly in the same situation.

The CHAIRMAN. Because San Francisco proposes to spend sixty or seventy million dollars?

Mr. DENNETT. I mean under the laws of the State of California.

Mr. LONG. But this juncture would come. Where do you propose to get this water?

Mr. DENNETT. The situation is this: The Tuolumne River, as has been testified to, is what you might call a torrential stream; during many months in the year the flow is very large. The Modesto and Turlock irrigation districts, subject to a smaller appropriation of approximately 50 second-feet by the La Grange Power Co., have prior rights to the extent of 2,350 second-feet. Our rights, we contend, come second or next after the rights of the Modesto-Turlock

irrigation districts, to such an amount thereof as may be necessary for the beneficial irrigation of this land.

I will state further—it varies, of course, in different years—but up to the middle of June the amount of water flowing in the river is considerably in excess of 200 second-feet over the appropriation of the Modesto and Turlock irrigation districts.

Mr. KENT. Mr. Dennett, if this legislation were delayed, what would prevent every other town and district in the valley getting prior rights ahead of San Francisco?

Mr. DENNETT. In the first place, Mr. Kent, the possibilities for diversion are limited. As I stated in the beginning, my own personal convictions are very firm that it would be a great blessing to the State of California if all of that land could obtain prior rights to San Francisco. I will be candid in the statement.

Mr. KENT. I am thinking about that particular case.

Mr. DENNETT. But I would like to call the attention of the committee to this fact, that while we believe that the right of the Waterford irrigation district has been perfected to this amount of water, and I am inclined to believe that it is superior to that of San Francisco—although I say that with some hesitancy—we do believe that this committee is justified in taking into consideration, as custodians of public property, the greatest possible requirement of that river and of the land which is most immediately dependent upon it.

Mr. TAYLOR of Colorado. Why is it that you are the only man of the whole State of California that is here presenting this public view. Why do they not rise up en masse and “swat” us.

Mr. DENNETT. I am glad to answer that question. I did not come here asking for a continuance, because I do not believe ordinarily in delaying proceedings. It was the general understanding of the people of my own community and of myself, when it was rumored that San Francisco had some sort of an arrangement with the Spring Valley Water Co., that under the testimony which heretofore had been given that it would be possible to develop the resources of that company so as to provide for the city for several years, this matter would probably not be acted on at this special session. We knew it was before the committee. I did not come on here with the others who came from my county, because I hardly anticipated that this matter would come up for action at this time. That is also the opinion of a large number of people in the San Joaquin Valley. I would like to state further that, as you are probably aware, the people in the average farming community, no matter how vigorously insistent they may be on their rights, are generally not very active in organizing for the direct protection of their rights, and these people are the sons of people who have been down there for years—without right, I freely admit, but they have equities to be considered, and they are entitled to consideration. Let us assume, as was stated in the telegram from Mr. Weast, which the chairman read yesterday, and in which I concur, that the Tuolumne River belongs to Stanislaus County, and that there is some God-given provision whereby we are not to be deprived of that river or the use of the waters thereof. I think you gentlemen are pretty familiar with the attitude of the people in the ordinary rural district, and realize the situation. Every chamber of commerce, every board of trade, and I believe I may say every board of super-

visors in the San Joaquin Valley, has protested against this proposed grant.

Mr. TAYLOR of Colorado. Does that protest still hold good in view of the agreement that was attempted to be entered into?

Mr. DENNETT. Well, as I said in the beginning, I do not wish to appear here as opposing the grant to San Francisco, but the protests do go to that extent.

Mr. KENT. Is any part of the Turlock or Modesto districts located in Stanislaus County?

Mr. DENNETT. Almost all of the Turlock district is in Stanislaus County. That is what Stanislaus County is interested in. I think Mr. Kent is familiar with the fact that when an attorney comes into court and gets what his client wants he is not so altruistic as to insist on whatever the public wants; and if I can obtain the rights of the people who sent me, if I can safeguard the interests of the people I represent, if I can get what my clients want, I am not opposed to what the others want, though I do not argue for them.

Mr. KENT. What do you think of the law of California concerning the "highest use?" Are you of the opinion that if in the future it should be found that the highest use of this water was for irrigation in the San Joaquin Valley, that San Francisco would acquire the prescriptive right to it, subject to State regulation?

Mr. DENNETT. I am glad you asked me that question. I was coming to that point.

Mr. KENT. What is your opinion?

Mr. DENNETT. I hardly think so. The city of San Francisco can condemn irrigation waters for domestic purposes on the ground that domestic use is the highest use, but I can hardly conceive the circumstances under which an irrigation district would be permitted to condemn water used for domestic purposes for irrigation purposes.

Mr. KENT. I can not see that at all. I do not follow that. I think if there is a bad distribution, an inequitable distribution of the State's water assets, the one would be as much subject to condemnation as the other.

Mr. TAYLOR of Colorado. There can not be any such law as that, Mr. Kent.

Mr. KENT. I am not a lawyer but I had an idea that such ought to be the law of condemnation.

Mr. DENNETT. That is my understanding and I think it ought to be the law.

Now, the situation, if I may come down to the concrete discussion of my own particular troubles with water for irrigation purposes, is this: Under this agreement San Francisco is permitted to divert 400,000,000 gallons daily. She will not be called upon to divert more than 200,000,000 gallons daily for 50 years. There are, then, 200,000,000 gallons daily which will not be used for many years to come, the status of San Francisco being that of the dog in the manger. She does not want to use it and can not use it, and the irrigation districts can not use it because it can not be bonded.

I have drafted an amendment to the pending bill which seems to me might meet the conditions without injuring San Francisco unduly, and is in accordance with the suggestion made by Director Smith of the Geological Survey. It has been very hurriedly drafted and

may be subject to correction, but it embodies substantially the idea I have in mind, and as a representative of the Waterford district I would like to offer it to the committee. It reads as follows:

Provided, however, That whenever any land adjacent to the Tuolumne River requires it and has no other adequate source from which to obtain water for the beneficial irrigation thereof, the Secretary of the Interior shall require of the grantee that sufficient water be released for the beneficial irrigation of such land upon the prepayment by the owners thereof to the grantee of a proportionate amount of the cost of storing and delivering such water, always, however, taking into consideration in determining such cost the profits to the grantee from the generation of electrical energy. And provided, also, That the word "owners" as above used shall be held to include irrigation districts other than the Modesto and Turlock irrigation districts now or hereafter organized upon the Tuolumne River; and that the Secretary of the Interior shall determine the amount of water to be released and the time when and the terms and conditions upon which such water shall be released.

Now, gentlemen, God Almighty has placed a limitation upon the use which can be made of the waters of the Tuolumne River. This report of the conservation commission goes into detail as to the lands which are supplied by the various rivers. While of course it would be perfectly feasible to pipe this water to the various irrigation districts, I am inclined to the opinion that it would undoubtedly be rather difficult to stand the expense. We have a maxim down in our country that "water is worth whatever it costs to secure it." I think that is practically true. I am the attorney for a project down there adjoining the Turlock-Modesto district known as the South San Joaquin irrigation district which has bonded itself for \$56 an acre to construct an irrigation district. When the Modesto district was organized the people were afraid of a bond issue of \$10 an acre. That shows the progress of public opinion. I am inclined to think that if those 150,000 acres were organized bonds could unquestionably be issued and sold for an amount large enough to construct the necessary works.

Coming down to the Waterford district, the Waterford district proposes to divert the normal flow of the river and the Turlock district contemplates the construction of a dam above the point of diversion to conserve an amount of water agreed upon by both districts, thereby supplying us with the amount of water we need.

The CHAIRMAN. Let me ask you about this amendment. If San Francisco is going to spend fifty or sixty or perhaps seventy or eighty million dollars on this proposition, do you not think that before such an amendment as this is agreed to, there ought to be some sort of proviso in that amendment which would make your rights subject to San Francisco? In other words, we ought not to force San Francisco to irrigate your land for you to the exclusion of the necessary beneficial use of that water for the city of San Francisco.

Mr. DENNETT. Well, Mr. Chairman, the people I represent are the sons of people who settled upon that land years ago; they have farmed that land for years, until it has become impoverished. Much of it is moist and under irrigation it becomes fertile.

Mr. TAYLOR of Colorado. Has that land ever been irrigated before?

Mr. DENNETT. No, sir; and without irrigation it is becoming less valuable. What we want is that some sort of provision be made by the city of San Francisco which will show that we have a substantial water right, sufficient for the authorization of a bond issue, because, as I stated before, I believe that in the future, with the pumping of the subsurface water in the Turlock and Modesto irrigation districts,

the water supply will be increased to such an extent that San Francisco can well afford to release the amount of water she is asked for. But practically, as the demands of the district now stand, this land is left without any water at all, and being left without any legal claim to water, it is placed in an unfortunate situation.

Now, gentlemen, I want to impress upon you and the gentlemen from San Francisco what irrigation means to this district, this portion of California, which is the most fertile piece of land that God placed here, land that has furnished comfortable homes and subsistence for generations, right at the door of San Francisco. As Director Smith suggested, as the years go on the highest development of the resources of the State of California require that San Francisco should obtain her water supply from the San Joaquin Valley, and Mr. Smith also suggested that she would be altruistic enough to look out for others when she had more than she needed. But when that time comes, I am candid in saying that the Secretary of the Interior could have and would have the right to compel San Francisco to release all her water supply, and unless she was reimbursed she would have to go elsewhere.

The CHAIRMAN. Let me understand you now. I want to get your position clearly. San Francisco anticipates, and all these engineers' reports anticipate, that at some time in the future she will need 400,000,000 gallons daily?

Mr. DENNETT. In the very distant future, yes, sir.

The CHAIRMAN. I think it is the opinion of all of us that in no immediate future will she need 400,000,000 gallons daily.

Mr. DENNETT. Yes, sir.

The CHAIRMAN. Now suppose, however, that San Francisco gets this 400,000,000 gallons daily from the two sources. Would you think, after she had made this expenditure, built these roads, built this dam, and bonded her city to bring this about, that even if she needed the full amount, she ought to be forced to give you a part of it?

Mr. DENNETT. In my capacity as a believer in the principle of conservation of the resources of California, I do.

The CHAIRMAN. Your amendment would make this possible?

Mr. DENNETT. It would.

The CHAIRMAN. Even though she expended all that money?

Mr. DENNETT. Yes, sir.

The CHAIRMAN. Even though she built this reservoir?

Mr. DENNETT. Yes, sir.

The CHAIRMAN. The people of Stanislaus County and the irrigation districts could step in and take the water away from the people of San Francisco and appropriate it to their own use?

Mr. DENNETT. Yes.

The CHAIRMAN. Do you feel that you should urge a position so strong as that?

Mr. DENNETT. Now, Mr. Chairman, I do not care to urge that. I would be satisfied with less. Mr. Smith stated that he favored this proposition, that he recognized—I am not quoting him verbatim, but this is substantially what he said—that he recognized the fact that the highest use required that the water be taken from the San Joaquin Valley, but that he favored this proposition because if the time ever came that this land required the water he believed that

San Francisco would be willing to let us have the water and that other arrangements could be made for getting their water.

Mr. TAYLOR of Colorado. I understood him to mean that they could develop some supplementary flow.

Mr. DENNETT. Yes; that is it. I might ask this question: Why should San Francisco take in all these bay cities? And I would like to ask Mr. O'Shaughnessy a question, if I may, Mr. Chairman.

The CHAIRMAN. Yes.

Mr. DENNETT. Mr. O'Shaughnessy, is it not possible that the cities on the opposite side of the bay from San Francisco can obtain a Sacramento supply at less expense than San Francisco, and does not the added expense arise from crossing the bay?

Mr. LONG. They have the same objection.

Mr. DENNETT. Mr. Manson stated to me in one of the former hearings that the objections which were urged by him to the Sacramento supply on the ground of cost did not equally apply to the other bay cities. I am not sufficiently familiar with the engineering features of the situation to know whether there is anything in it or not, and I would not like to express an opinion.

Mr. O'SHAUGHNESSY. May I answer your question?

Mr. DENNETT. Could not a Sacramento water supply be brought to the bay cities on the other side of the bay from San Francisco more cheaply than to San Francisco?

Mr. O'SHAUGHNESSY. Certainly it could be brought more cheaply.

Mr. DENNETT. Admitting that this expense from Sacramento Valley to San Francisco is responsible for the opposition to a Sacramento supply, yet, nevertheless, if San Francisco can develop her own resources the bay cities on the other side of the bay can obtain an adequate supply at a reasonable cost from Sacramento River. This would not involve an entire elimination of the supply of San Francisco.

Mr. TAYLOR of Colorado. You mean changing the supply. But would not your amendment here jeopardize the right of San Francisco to place bonds for all this \$70,000,000?

Mr. DENNETT. I do not think the amount of water which would be diverted would be sufficient to do that.

Mr. GRAHAM. Do you think the city would be justified in making the expenditures, even though the other cities were eliminated and San Francisco alone were involved in the scheme?

Mr. DENNETT. My answer is that I do not believe San Francisco would have a sufficient local supply. Now, I am answering these questions, but I am not an engineer.

Mr. O'SHAUGHNESSY. Mr. Nolan has expressed to you the desire of those cities.

Mr. DENNETT. They want it, of course, there is no question about it. But I beg your pardon; I do not wish to appear so broadly in the record. There is a demand, but I am inclined to think that the preponderating sentiment is against it.

Mr. TAYLOR of Colorado. What you want is some practicable way by which your people can get water?

Mr. DENNETT. Yes, sir.

Mr. O'SHAUGHNESSY. Mr. Dennett, last Sunday you had a conference with colleagues from Stanislaus County, and they entered into an arrangement with you for the distribution of that water, giving you some of it, and before you left there they arranged to give

you the water for the Waterford district, and you did not want it, you refused it?

Mr. DENNETT. The terms were not acceptable.

Mr. O'SHAUGHNESSY. They are your neighbors?

Mr. DENNETT. They were all of them good lawyers——

Mr. O'SHAUGHNESSY (interposing). They adjoin you?!

Mr. DENNETT (continuing). Who were hired to represent the Turlock and Modesto districts——

Mr. O'SHAUGHNESSY (interposing). They offered you the water?

Mr. DENNETT (continuing). And I think they made a very good settlement.

Mr. O'SHAUGHNESSY. And they were such good lawyers they did not want to have anything to do with you? [Laughter.]

Mr. DENNETT. They were not concerned in my particular project. They did not want to have anything to do with it.

The CHAIRMAN. Mr. Dennett, it is 6.10 now. How long will it take you to conclude?

Mr. DENNETT. I think I am through, with the exception of one other matter I would like to refer to—the Tracy project.

Mr. CURRY. There is a tract of 60,000 acres reaching from near Tracy to the Alameda line, known as the Tracy project. They do not want water, but power. Mr. Dennett is the attorney for that district. I have been requested by telegram to refer the matter to him and I would like to have him explain the legal rights and equities of the Tracy district. I think the 60,000 acres can be made very productive with the water they can pump from the San Joaquin Valley. The only objection I have to this bill is that they have 120 horsepower in the mountains and they are not required to develop it, which I think they ought to do. I would like to have Mr. Dennett speak on this matter.

The CHAIRMAN. How long will it take to dispose of it?

Mr. DENNETT. Fifteen minutes. I have nothing further to state on the original proposition.

The CHAIRMAN. We want to close the hearings as soon as we can.

Mr. DENNETT. Mr. Chairman, there is one thing I would like to ask. My amendment does not appear to have met with a very gracious reception, and I would like the committee to consider the practical claims, at least, to that 20,000 acres. I would like to submit to the committee in writing some modified statement. I believe what we ask is not unreasonable, but I would like to file a modified statement.

The CHAIRMAN. I will put your original amendment in the files of the committee, and if there is anything else you want to file you may do so.

Mr. RAKER. Now, suppose the committee receives a telegram from Mr. Sullivan to-night, you do not want to hold this over seven or eight days, do you?

Mr. THOMSON. When would the committee take up the bill, then? What is your idea?

Mr. RAKER. Not until the evidence is all in.

The CHAIRMAN. If this man comes we must hear him. If he does not—well, we are called together for the 7th, anyhow.

Mr. RAKER. Suppose he telegraphs to-night that he will not come; that relieves these gentlemen from staying here and they can go home.

The CHAIRMAN. That is the idea.

Mr. DENNETT. Now, in regard to this Tracy matter. The Tracy irrigation district is in process of construction in the San Joaquin Valley near Tracy, and I am the attorney for those people. At first blush it appeared to me that they were not interested in this question, but in the light of the testimony given by Mr. O'Shaughnessy I am inclined to think that they are. His testimony was to the effect that the diversion of the 400,000,000 gallons daily to San Francisco might interfere with the natural flow of the lower Sacramento, and that in time they might have to move their pumping plant farther up.

This is on a river that is tributary to the Tuolumne River, and they propose to pump their water by a series of four lifts, running it to the contour. Of course, the main cost in this connection is the cost of power. Let me say this: The Tuolumne River is the only river in California on which power has not been developed, and San Francisco is obtaining what is probably of more value than water—power. These people have felt that all the public corporations in the immediate vicinity of San Francisco might justly ask for some sort of recognition in this request, which is not unreasonable. I presume that San Francisco should be willing to sell its power at a reasonable cost. When a small water district is formed at San Francisco and an area in the Stanislaus region asks to share in all that tremendous amount of power that can be developed, I am inclined to think that my friends in Tracy are not unjust in their request. I think the people in that district have some equitable rights there, and municipalities, like private corporations, are not always disinclined to take advantage of the necessities of the people to whom this is a commodity.

I think that in the final draft of this bill a liberal provision should be made for the municipal or public corporations in the vicinity of San Francisco.

The CHAIRMAN. Inasmuch as we are hearing the whole matter through, what would be the objection to having you prepare an amendment that you would be willing to stand on and a short statement or brief in support of it, submit it to Mr. Long, and he, after conference with his people, can submit a brief in reply; then the committee can consider them when it comes to take up the bill section by section—on this Tracy proposition and also on the other proposition?

Mr. DENNETT. That will be all right.

Mr. O'SHAUGHNESSY. Mr. Chairman, may I ask Mr. Dennett a question?

The CHAIRMAN. Certainly.

Mr. O'SHAUGHNESSY. Mr. Dennett, do you know that there is a similar pumping proposition at the Patterson ranch?

Mr. DENNETT. Yes, sir.

Mr. O'SHAUGHNESSY. And that they are selling power at three-fourths of a cent per kilowatt-hour?

Mr. DENNETT. Yes, sir.

Mr. O'SHAUGHNESSY. There is an abundance of such power in California?

Mr. DENNETT. Yes, sir.

Mr. O'SHAUGHNESSY. And that no irrigation district that is intended to be formed is suffering under any hardship for lack of power?

Mr. DENNETT. Yes, sir. Mr. Patterson purchased a large amount of power at a very reduced rate—I think it was 32,000, though I am not sure—and he is now selling the power at a very low rate.

Mr. RAKER. You are not of the opinion that water power to-day is in the hands of a monopoly?

Mr. DENNETT. There is no monopoly there.

Mr. RAKER. It is not a fact, then, that the water-power companies of California are an absolute monopoly?

Mr. DENNETT. They are competitors at the present time and power is sold at 1 cent per kilowatt-hour.

Mr. RAKER. Any statement that electric power in California is under one great monopoly and absolutely controlled by a monopoly in the State is not a fact?

Mr. DENNETT. I do not think it is true.

Mr. RAKER. Yes. That is all.

The CHAIRMAN. Now, we have heard you through, Judge Dennett. You and Mr. Curry can get up your amendment for the Tracey people and submit it to the other side, together with a brief, to which the other side will reply, covering also the amendment submitted here regarding the Waterford district; then the committee, having the benefit of your views, can thrash the matter out at the proper time.

Mr. CURRY. Just a word on the Tracey district. There are only four original sources that San Francisco can use, and this is the best one. San Francisco ought to be compelled to develop her power and to sell it to those who have use for it. There is no other place there where you can get such power. If San Francisco does not need it, there are others who do.

Mr. TAYLOR of Colorado. In other words, you do not think they ought to be a dog in the manger on this proposition?

Mr. CURRY. Yes; she ought to develop that power. Of course, it will be developed for the railroad companies.

Mr. TAYLOR of Colorado. Now, when you come to power you buck up against the Secretary of the Interior; he is the man who controls the water for power purposes.

Mr. CURRY. Well, I do not believe you ought to legislate to give too much power to an executive officer.

The CHAIRMAN. The committee has not agreed to any of the terms of this bill yet; we have not considered it yet.

Mr. CURRY. I know; but this Government is getting to be a government by department heads and bureau officials.

Mr. RAKER. Now, will these briefs be in before the 7th?

Mr. LONG. Before that, if we can.

Mr. FULKERTH. I would like to ask a question, in view of what has transpired here. I would like to ask whether San Francisco would be willing to incorporate in this bill a provision for the acquisition of the Spring Valley Water Co.'s works for domestic purposes? Is there any objection to that?

Mr. LONG. I think this bill is loaded down enough now without putting anything more in it.

Mr. FULKERTH. I do not understand that there is any objection to that.

Mr. LONG. It would be calculated to put a club in the hands of a monopoly.

Mr. FULKERTH. Well, I merely made that suggestion. I have drafted an amendment to section 6 which I will hand to the chairman.

Mr. LA FOLLETTE. That idea has been talked of here for a week.

Mr. LONG. We have in that bill a restriction in regard to domestic use.

The CHAIRMAN. We will be glad to consider anything you may submit.

Mr. TAYLOR of Colorado. We do not want to get matters in this bill that will set a precedent which may fly back some day and strike us in the face.

Mr. FULKERTH. Of course, we want to protect San Francisco all we can, consistent with our own rights.

The CHAIRMAN. Now, Mr. Needham wants to be heard.

STATEMENT OF HON. JAMES C. NEEDHAM, OF CALIFORNIA.

Mr. NEEDHAM. Mr. Chairman and gentlemen of the committee, speaking for those present, after consultation with them who represent the Turlock and Modesto irrigation districts, and without intending in any way to violate the good faith which has entered into the negotiations between the representatives of the city of San Francisco and the irrigation districts, I desire to state as a matter of record the reasons why we are not at this time opposing this measure.

Heretofore the irrigation districts have always opposed the legislation which has from time to time been presented in behalf of San Francisco for a water supply upon the Tuolumne watershed, and although I have followed this matter very closely, both in Congress and in the Department of the Interior, the city has never before come to a point where it has been willing to make the concessions which it has now made and which are incorporated in this bill. We are not at this time opposing the bill because it specifically sets forth in the bill conditions which we feel protect the prior rights of the Turlock and Modesto irrigation districts. As long as our prior rights are fully recognized and protected and the city agrees never to interfere with these rights, we feel that the districts themselves, in behalf of the territory within their limits, possibly could not consistently object or present an objection which would weigh with this committee. In making this statement we are not conceding or discussing the policy as to the advisability of legislation which will permit the water to be taken from the Tuolumne watershed to a distant territory which is not adjacent to it or directly dependent upon it. We simply leave this question with this committee, and Congress, in so far as Congress has jurisdiction.

The theory of this bill is that the Congress of the United States grants to the city of San Francisco certain rights of way for conduits and dams within the Yosemite National Park and over the national forests and public lands upon certain expressed conditions. These conditions which are set forth in the bill are the matters in which we are particularly interested. The balance of the grant, its extent and scope, is a matter for the committee and for Congress to determine after, I take it, full advice from the departments having jurisdiction.

It has been suggested and, in fact, was argued upon a former bill of this character, that Congress should make this grant without conditions and permit the parties who have rights upon the stream and upon the watershed to maintain those rights in the State courts. We would be unalterably opposed to such a grant and we take the

position that the grant, if made, should be made upon conditions, and if these conditions, which are embodied in the bill, should be in any way materially modified so far as they relate to the rights of the irrigation districts, such modification might, of course, compel us to object to the bill. If the bill should be passed without conditions, it might mean long, tedious, and expensive litigation, possibly involving a Federal question, which might make it necessary to take the matters in issue to the Supreme Court of the United States, and we feel that if the prior rights which we have and claim are fully recognized and made a condition precedent to the grant, that we are protected and unnecessary litigation will be avoided.

Another reason, and a very strong reason, why we are willing to withhold objection to the bill, is because the issue between the city of San Francisco and the irrigation districts, as to the water of this watershed, has been in constant agitation for 10 years or more, to the great detriment of the irrigation districts, causing uncertainty and depreciation of land values in the irrigation districts. This agitation has been used by other communities to the great disadvantage of these districts and we have felt that if the matter could be definitely settled in such a manner as to safeguard our rights and to obtain from the chief party claiming against us, an admission of our priorities and safeguarding our rights in the waters of the Tuolumne watershed, especially in an act of Congress, that it would be to the great advantage of the districts.

In conclusion, I desire to add that the representatives of the city of San Francisco, Mr. Long, the city attorney, and Mr. O'Shaughnessy, the city engineer, while persistent in advocating the rights of the city of San Francisco, have evinced a spirit of fairness toward the irrigation districts, and I think it is just to say, although they have not been able to agree with us in all matters, and especially with regard to the San Joaquin Valley outside of the irrigation districts, that they have evinced a spirit of fairness toward the irrigation districts, which is commendable. In fact, that all of those representing San Francisco have shown us due courtesy and consideration, while differing with us widely upon the broad principles of conservation which urge us to maintain that all of the waters of the Tuolumne watershed should be left in the San Joaquin Valley for use on the arid lands of that valley. We wish also to thank Mr. Church, our Member of Congress and a member of this committee, for the indefatigable and untiring efforts he has made on behalf of the valley and the irrigation districts, for the preservation of these waters for the valley, and, in closing, to thank the entire committee for the careful consideration they have given and will give the bill, and for the courtesies and kind treatment they have extended to each and every member of the committee representing the valley and these irrigation districts.

The CHAIRMAN. We thank you very much, Mr. Needham.

Now, gentlemen, what shall we say? That the hearings are closed, subject to the result of the telegrams sent out to Mr. Sullivan to be here on the 7th? Unless there is objection, we will now adjourn until July 7 at 10 o'clock, at which time, if Mr. Sullivan is here, we will proceed to go into this matter in full; if he is not here, we will take up the bill section by section and dispose of it.

Thereupon, at 6.30 p. m., the committee adjourned until Monday, July 7, 1913, at 10 o'clock a. m.



